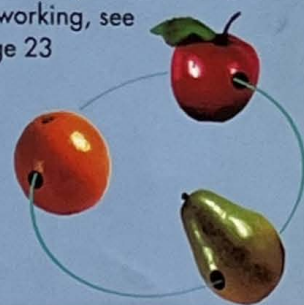


MacWEEK

13 February 1990 Vol. 4 No. 6 W O R K S T A T I O N N E W S

Gateways: Real-world networking, see Page 23



Six-slot Macs get upgrade path with IIx

By Daniel Farber

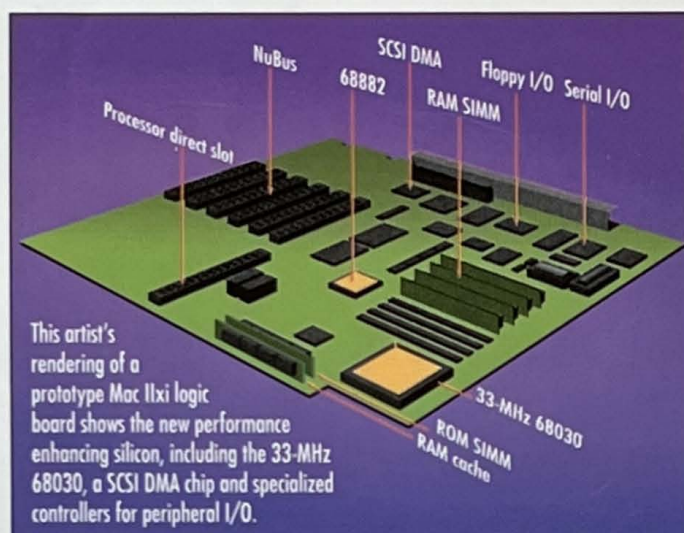
Cupertino, Calif. — The product announcements anticipated soon from Apple will not only add a powerful new member to the Mac II family but will also provide an upgrade path for owners of II and IIx machines.

The logic board of the new machine, which is currently called the Mac IIx, will be available as an upgrade that replaces the logic boards of the Mac II and Mac IIx.

The high-powered workstation was set for a March release, but new Apple Chief Operating Officer Mike Spindler has reportedly established a committee to review plans for the IIx and other new products. The review could mean a delayed release.

The logic board of a prototype IIx seen by MacWEEK has the same connectors and can use the same power supply as its predecessors.

The price for the IIx is tentatively set at about \$10,000 for a



This artist's rendering of a prototype Mac IIx logic board shows the new performance enhancing silicon, including the 33-MHz 68030, a SCSI DMA chip and specialized controllers for peripheral I/O.

machine with 4 Mbytes of RAM and an 80-Mbyte hard disk, sources said. Pricing and availability for upgrade boards have not yet been set, according to sources.

As reported previously (see MacWEEK, Jan. 30), the IIx will use a 33-MHz 68030 chip as its central processor. Versions using a 40-MHz 68030 chip may be shipped, depending on the availability of the Motorola chips.

New silicon components that See Mac IIx, Page 8

MacroMind and Farallon ready multimedia tools

By Connie Guglielmo

San Francisco — MacroMind Inc. and Farallon Computing Inc. are expected to announce new multimedia tools here later this month, according to sources close to both companies.

► Farallon's MediaTracks, an enhanced version of its Screen-Recorder program, is expected to be priced between \$250 and \$300 (see MacWEEK, Dec. 12, 1989).

► The program lets users graphically record and replay sequences, or "tapes," of user actions and the resulting screen events to create training demos and other presentations. Users can edit the tapes by cutting them into "clips" that can

See MacroMind, Page 9

Gassée: Au revoir?

Resignation would leave leadership void

By Daniel Farber

Cupertino, Calif. — Jean-Louis Gassée, president of Apple Products, last week told Apple CEO John Sculley that he intends to resign, according to sources within the company.

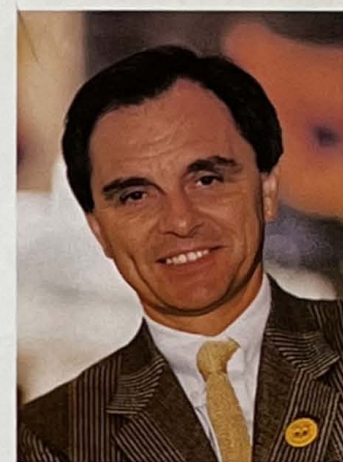
The charismatic Frenchman, who joined Apple in 1981 as the founding general manager for Apple France and was responsible for the introduction of the Mac SE and modular Mac II line, was reportedly discussing the terms of his resignation late last week, but at press time had not yet tendered his official resignation.

Gassée's decision has been made difficult, sources added, by an outpouring of support from Apple employees. Fliers circulating on Apple's campus summoned employees to a "Jean-Louis Gassée Appreciation Rally" last Friday.

Gassée and Sculley were unavailable for comment, but an Apple spokeswoman said the two have been "in discussions" for sev-

eral weeks concerning Gassée's future with the company. Sources said he had been offered a position to head Apple Europe but that he declined.

See Gassée, Page 8



C. FERRARI — REA/PICTURE GROUP

Apple may have to navigate through the 1990s without the vision of Jean-Louis Gassée.

Aldus adds new PageMaker chapter

Silicon Beach buyout a done deal

By Carolyn Said

San Francisco — Riding high on a double-crested wave, Aldus Corp. last week demonstrated a feature-laden new version of PageMaker and announced that it has signed a definitive agreement to acquire Silicon Beach Software Inc. (see MacWEEK, Jan. 23).

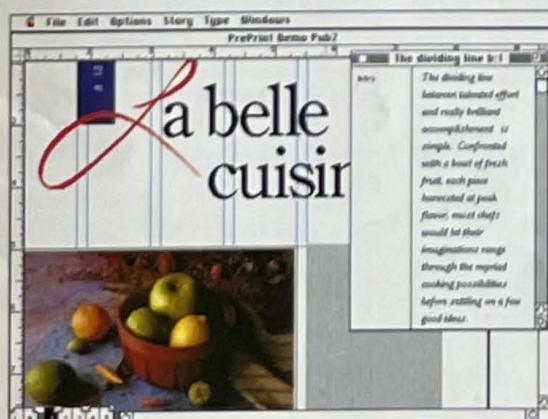
PageMaker 4.0, to ship in the second quarter for \$795, enhances the page-layout program with more

than 75 new features, Seattle-based Aldus said. Features include:

► Word processing. A pop-up window called a Story Editor allows for quick editing and entry of text, as well as search and replace and spell checking. Text edited in the Story Editor is automatically updated on the page.

► Typography. The new PageMaker can kern over a range of text and offers tracking options based on point size. Horizontal scaling from 5 percent to 250 percent, rotation of text in 90-degree increments, forced justification, and point size and lead-

See Aldus, Page 8



Aldus PageMaker 4.0's enhanced word processing features are accessed via a Story Editor (top right), a pop-up window that displays plain text and style tags for quick editing and entry.

Mini apps in Claris' future

By Raines Cohen

Santa Clara, Calif. — Using the announcement of its acquisition of database access technology as a springboard, Claris Corp. last week outlined a strategy for addressing the information management needs of corporate decision makers. In doing so, the company amplified on previous statements about its direc-

tion for application development under System 7.0.

Claris officials described a future of small, "task-specific" applications that will perform just a few functions but offer more depth than the complex, multifunction, generalized applications sold today. Using the interapplication commu-

See Claris, Page 9

L A T E N E W S

Olsson takes over as Apple Europe president

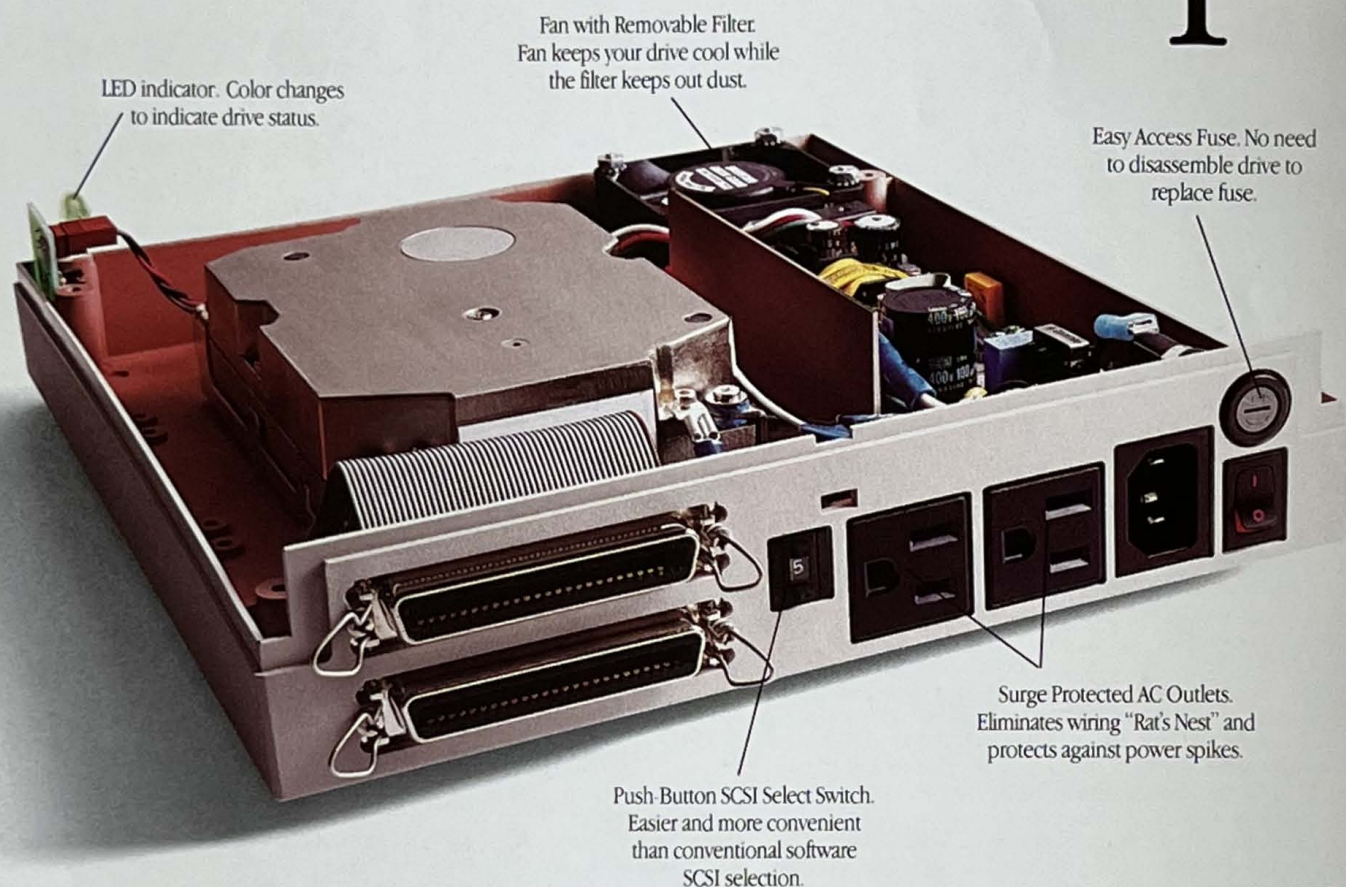
Paris — Apple last week announced the appointment of Sören Olsson as president of Apple Europe. Filling the vacancy left by last month's promotion of Michael Spindler to the post of chief operating officer, Olsson will be responsible for Apple's marketing, sales and support operations throughout Europe, Africa and the Middle East.

Apple's Swedish subsidiary, which Olsson has directed since 1984, has been one of the company's most successful European branches. In 1988 the 44-year-old executive was promoted to vice president, managing director of Sweden and general manager for Europe North, which includes Norway, Denmark, Finland, Iceland, Germany, Austria and the Eastern European countries. "Sören has become one of our most experienced executives and has had notable success in developing reseller channels and marketing strategies," Spindler said.

Apple continues to seek a replacement for Allan Loren, who resigned last month as president of Apple USA. □

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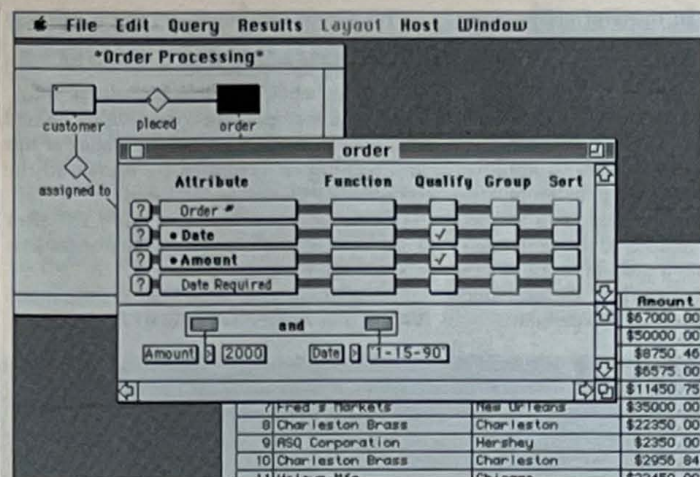
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The Award-Winningest Drives—Jasmine has been honored by more industry awards than all other drive suppliers combined.



Andyne's GQL 2.0, which lets users access host data from SQL hosts, supports a variety of host database and communications protocols, including Apple's CL/1 connectivity language.

Andyne's graphical query tools promise easy SQL data access

By Raines Cohen

Kingston, Ontario — Andyne Computing Ltd. last week shipped GQL (Graphical Query Language) 2.0, an upgraded host-data access program. The company said it offers the power of SQL without making users write or see SQL code.

Users generate queries with the end-user portion of the GQL package, GQL/User, by dragging, clicking and specifying criteria. Results are returned in a table format.

Among the enhancements:

- Scripts can be stored and transmitted from files, and query results can be sent directly to a file.
- SQL query code generated by GQL can be edited and saved.
- Support for color has been

added, and the query-building dialog has been revamped. User-defined buttons can send pre-defined queries.

Andyne said GQL supports several host database and communications protocols, including Apple's CL/1 connectivity language, Oracle SQL*Net, Sybase DB-Library, AlisaTalk, PacerLink, Tandem 6530 and asynchronous connections.

GQL/User is priced at \$295, while the Design and Administrative modules sell for \$995 and \$1,995, respectively.

Andyne Computing Ltd. is located at 544 Princess St., Suite 202, Kingston, Ontario, Canada K7L 1C7; (613) 548-4355; (800) 548-4355. □

C-Cube to shrink still images

San Jose, Calif. — C-Cube Microsystems Corp. is expected to announce later this month image-compression technology that it hopes to make an industry standard.

Combining software and a VLSI (very large-scale integration) chip, C-Cube promises to dramatically reduce the size of still images, thereby speeding up the capture, display and transfer of files.

The technology is based on a DCT (discrete cosine transforma-

tion) compression scheme developed by a group working under the auspices of the International Standards Organization.

Two of the company's key executives are well-known in the Macintosh community: Alain Rossmann, formerly vice president of marketing at Radius Inc., and Jim Rafferty, co-founder of Cricket Software Inc.

C-Cube Microsystems Corp. is located at 399-A West Road, San Jose, Calif. 95131; (408) 944-6300. □

OmniPage upgrade, 3 add-ons ship

Los Gatos, Calif. — Caere Corp. this month shipped OmniPage 2.1 and three add-ons that work with the upgraded optical character recognition package.

New features include the ability to read compressed TIFF files and a Transitional Editor that allows users to edit scanned text without losing formatting.

► OmniDraft is a \$100 module that lets OmniPage 2.1 recognize dot-matrix output in type sizes ranging from 8 points to 72 points.

► OmniSpell, a \$100 spelling checker that works within OmniPage 2.1, is designed to detect common OCR errors based on letter shape, such as "m" instead of "rn".

► OmniProof, a \$150 stand-alone application, compares versions of a document and highlights changes.

The OmniPage upgrade is free to registered owners of Version 2.0 and \$150 to owners of earlier versions.

Caere Corp. is located at 100 Cooper Court, Los Gatos, Calif. 95030; (408) 395-7000. □

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T/Maker debuts WriteNow 2.2

By Edwin Garcia

Mountain View, Calif. — T/Maker Co. last week announced WriteNow 2.2, an upgrade that adds more than two dozen new features and enhancements, including a 1.4 million-word thesaurus, a larger dictionary and direct compatibility with Microsoft Word.

WriteNow 2.2, still priced at \$195, is expected to ship by the end of this month, the company said.

"One of the very best things about WriteNow 2.2 is its Microsoft Word filter," said beta-tester Steve Fair, an editor at Christian Science Publishing Society in Boston. "Unlike some word processors, it can import both Word 3.0 and 4.0 files. Best of all, it can open fast-saved Word 3.0 and 4.0 files."

WriteNow 2.2's thesaurus is the WordMaster DA Thesaurus from Proximity Technology Inc. of Fort Lauderdale, Fla. It provides synonyms; antonyms; compared, contrasted and related words; inflections; and short definitions.

The new version increases the size of Write-

Now's spelling dictionary from 100,000 to 135,000 words, making it the biggest built-in spell checker available, according to T/Maker.

The upgrade also adds new "format accelerators," including menu commands that let users copy the font, size and style of selected text and apply the formatting to another passage.

Other enhancements include an option to

view actual fonts in the font menu, ruler guides that create a vertical line on a user's document when a tab marker or margin is clicked, and a configurable Clean Up command that automatically tiles or stacks open windows.

T/Maker is hoping its entry-to-midlevel word processor, which has gained popularity for its speed and ease of use, will surpass Claris Corp.'s MacWrite II in domestic sales. Each program claims a stake of about 15 percent in the U.S. Mac market, T/Maker said. Microsoft Word holds about 65 percent.

"It's a good solid upgrade, and it is a nice evolutionary step for an already solid product," said Scott Beamer, a writer and WriteNow beta tester from Berkeley, Calif.

The software package comes with a revised reference manual and a new handbook of tips and techniques compiled by users and the company's technical support staff.

Users who purchased Version 2.0 after Feb. 1 can obtain a free copy; the upgrade is \$39 for other registered owners.

T/Maker Co. is at 1390 Villa St., Mountain View, Calif. 94041; (415) 962-0195. □

Courseware entrants fill gap left by Kinko's

By Elinor Craig

San Diego — Two California companies are aiming to fill the void left by the departure of Kinko's Academic Software Exchange from the college courseware publishing scene.

Although an Apple contract for co-marketing and development support is still pending, Chariot Software Group, based here, and Intellimation Inc. of Santa Barbara, Calif., plan to move ahead with publishing and marketing of educational materials without the support from Apple that Kinko's enjoyed.

Chariot announced this month the formation of the Academic Courseware Division to publish low-cost Mac software developed by and for educators. Its spring catalog will offer new titles ranging from \$10 to \$50.

"We have contacted individuals and universities about publishing titles," said George Madden, Chariot president. "Our non-exclusive contracts are getting a good response. Drexel University in Philadelphia gave us a verbal agreement." Drexel was an early Apple University Consortium member and is a leader in courseware development.

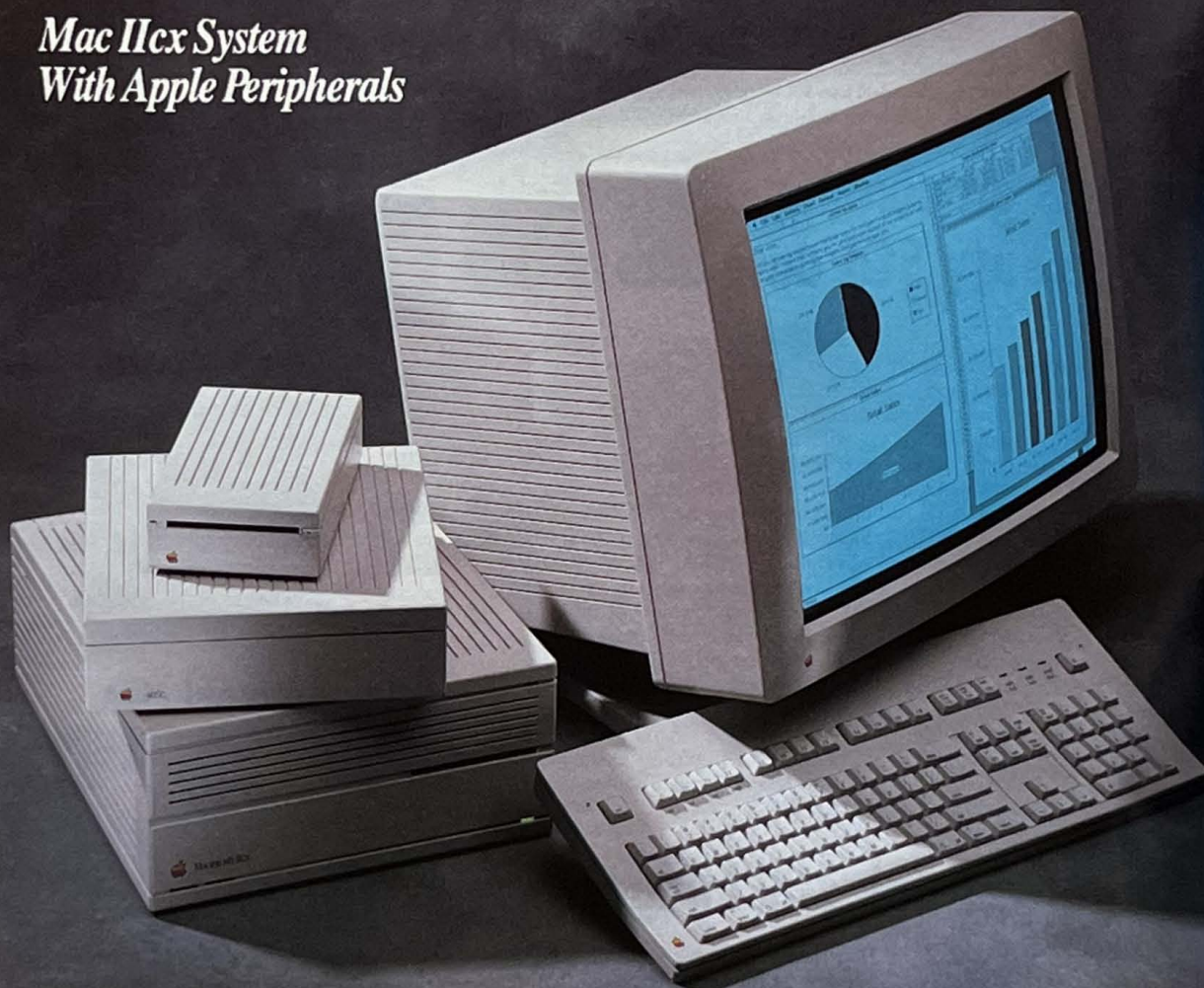
Intellimation, a division of ABC-CLIO, a Santa Barbara-based academic publisher, also is planning to provide similarly priced education software for the Mac as well as two other levels of courseware. Level 2 will consist of \$75 to \$100 programs integrated with specific instructional materials. Level 3 will consist of complete multimedia packages, including laser discs, CD-ROM and other media, priced at \$200 to \$300.

Intellimation's Level 1 project is scheduled to begin next month, Level 2 by the third quarter, and Level 3 by the end of the year. All products will be distributed internationally.

Within a month Apple will announce a company to temporarily handle the Academic Software Exchange program, according to Daryl Weiner, manager of strategic projects for higher-education marketing at Apple. A final choice will be made by this summer.

Chariot Software Group is located at 3659 India St., Suite 100CW, San Diego, Calif. 92103; (619) 298-0202. Intellimation Inc. can be reached at P.O. Box 1922, Santa Barbara, Calif. 93116-1922; (805) 968-2291. □

Mac IICx System With Apple Peripherals



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Apple	Ehman
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101 Extended Keyboard . . . \$229	105 Extended Keyboard . . . \$99
800K Floppy Disk Drive . . . \$429	800K Floppy Disk Drive . . . \$149
Total \$9874	Total \$6415

Whatever happened to floptical drives?

By Henry Norr

San Jose, Calif. — A draft white paper released last week by the Micro Managers Association's Micro Standards Committee (formerly the 486 Standardization Committee) gives the group's blessing to the 20-Mbyte floppy format developed by Insite Peripherals Inc., but it is likely to be some time before Macintosh users benefit from new 3.5-inch storage technology.

The committee, an organization of corporate microcomputer users, said the Insite "flopticals" outperformed other current and proposed very high-density floppy formats in cost, speed and reliability.

Insite's disks use ordinary magnetic media stamped with optical servo tracks. Iomega Corp. of Roy, Utah, has licensed the patented

technology; several IBM PC and compatible companies have announced versions of it; and a few Mac vendors are known to be working with prototypes. But Jim Adkisson, president of the 3-year-old Insite, based here, said last week that recent design changes, including downsizing to 1 inch in height and adding an auto-eject mechanism, mean that the drive won't be available in volume for months.

Even then, he said, the initial release will not be compatible with standard Mac floppy formats, although it will read and write IBM PC formats. □

IBM to put NeXT interface on new AIX machines, PS/2

By Daniel Farber



Armonk, N.Y. — NeXT Inc. received a much-needed boost last week when IBM Corp. announced plans here to offer NextStep on high-end PS/2s and a new line of workstations running AIX, the computer giant's version of Unix.

NextStep is the NeXT Computer System's object-oriented user interface and development environment.

The announcement, which had been anticipated since the two companies inked a licensing agreement in 1988, "will get developers who were unsure about developing [for NextStep] off the fence," said Dan'l Lewin, vice president of sales at Redwood City, Calif.-based NeXT. "It means there will be a much larger pie and a broader range of NextStep-based solutions for users and developers."

NeXT and programmers developing software with NextStep claim that it makes it possible to construct applications in far less time than required in traditional development environments.

"In the three months we have been converting Unix code for WordPerfect Office and WordPerfect, we have found development with NextStep to be much faster than with other systems," said Tom Mallory, director of NeXT development at WordPerfect Corp. of Orem, Utah. "The tools are fabulous."

Alongside NextStep, IBM will offer the Open Software Foundation's Motif as an alternative graphical user interface for AIX.

According to Tim Bajarin, executive vice president at Creative Strategies of Santa Clara, Calif., the announcement will bring NextStep applications to market faster, but it doesn't guarantee that NeXT will dominate on AIX machines. "NextStep is clearly being offered as one of the interface options. I expect IBM's major endorsement to go to OSF's Motif."

IBM will support the same application programming interfaces as NextStep, which will allow developers to write applications that work on both platforms with straightforward recompilation. Porting programs between NeXT and IBM hardware should take less than a week, Lewin said.

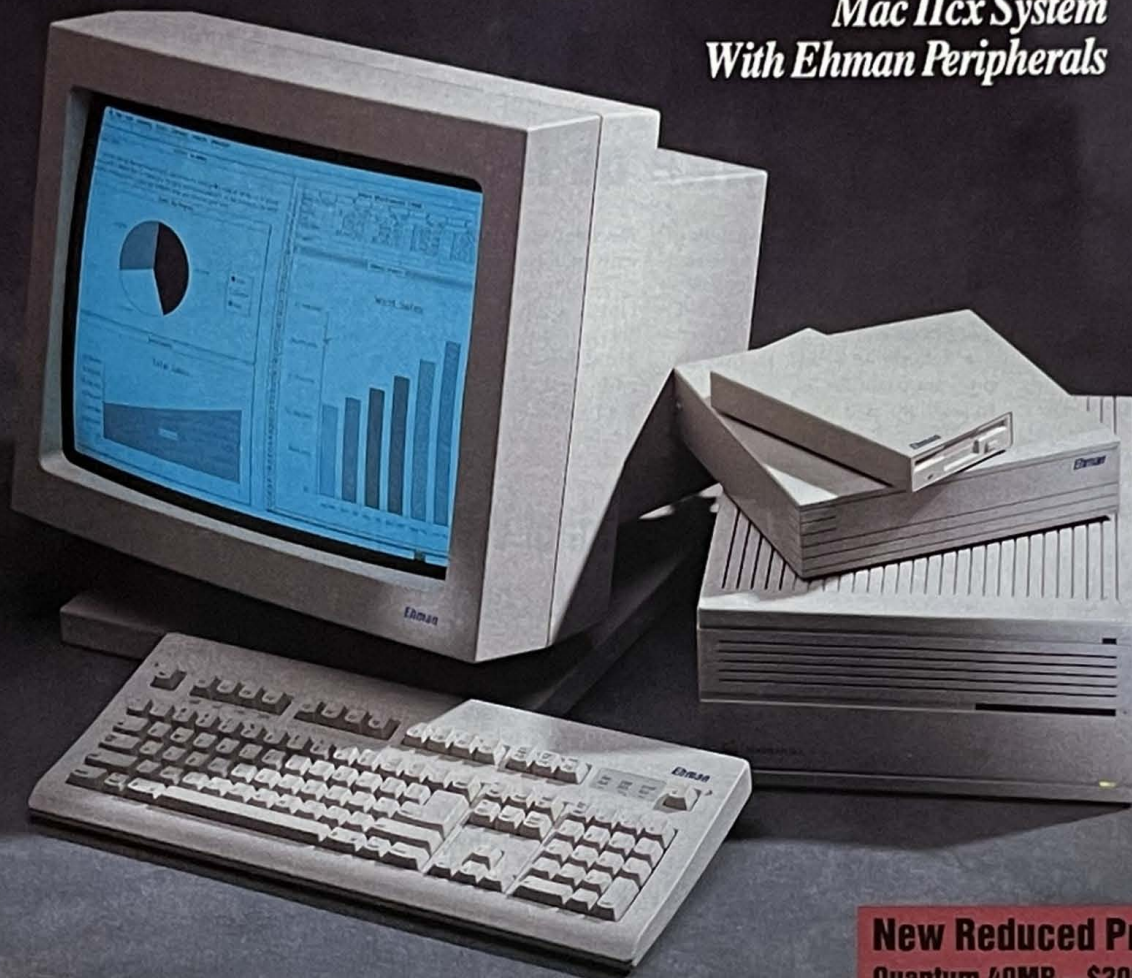
Sources said the IBM machines that will run NextStep — future PS/2 models and the new RISC (reduced instruction set computing) workstations — are not likely to be available until late summer.

NeXT is hoping that, along with IBM's endorsement, praise from key software developers will create more demand for NextStep and the NeXT computer. NeXT has so far suffered slack sales, largely because of a lack of application software, according to sources close to the company.

Lewin also said that IBM and NeXT are jointly developing connectivity solutions to bring the NeXT machine into IBM's Systems Application Architecture world.

NeXT officials said they are not concerned about competition from IBM machines running the same interface as the NeXT system. "We have enabled a competitor, but we have a fairly aggressive hardware offering and bundled software," said Lewin. "Each platform will evolve some core applications and have distinctive features that appeal to different kinds of customers." □

Mac IIcx System With Ehman Peripherals



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40Q	\$399	\$479
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135	\$899	\$999
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Trojan horse detected in Canada

Rogue programs trash directories

By Henry Norr

Edmonton, Alberta — Two Trojan horses — programs with malicious purposes hiding behind innocent facades — were discovered here this month, but at press time no copies of the destructive programs had been reported elsewhere.

The discovery was made by Peter Johnston, senior analyst for university computing systems at the University of Alberta. Johnston was called in by the systems operator of a local bulletin board where the programs were posted in January. But both the sysop and a patron of the Bulletin Board System had lost files to the Trojan.

The first strain is imbedded in a program called Mosaic, Johnston reported in a warning distributed at the university and posted on electronic services. When launched, the program immediately destroys the directories of all available physically unlocked hard and floppy disks, including the one it resides on.

Even unmounted but available SCSI hard disks are mounted and their directories destroyed by the Trojan, Johnston said. The attacked disks are renamed "Gotcha!"

The second Trojan strain was detected in an application called

FontFinder. The software, apparently a contaminated version of a legitimate public-domain program, has a trigger date of Feb. 10. Before then, the application simply displayed a list of the names and point sizes of fonts loaded in the System file. If the contaminated program is launched on or after the trigger date, however, the Trojan attacks disks in the same way as Mosaic does, Johnston said.

Johnston said last week that he had not had time to test most available anti-virus tools against the new

Trojans, but that the advanced mode of SAM Intercept, part of the SAM package from Symantec Corp. of Cupertino, Calif., does flag the rogue programs' attempt to bypass the standard file system and give the user a chance to block them.

HJC Software Inc. of Durham, N.C., said Virex 2.5, which will prevent the launch of the Trojan programs, was scheduled for release last weekend.

Johnston also said that Version 3.0.1 or later of VirusDetective, the user-configurable virus-detection

desk accessory developed by Jeff Shulman, can detect the two known strains of the Trojan if set to search for the following string: Resource CODE & ID = 1 & Data 44656174685472616B.

Shulman's DA is available from on-line services and other sources of shareware software. The shareware license fee, including the disk, is \$40.

Johnston, the author of a book called The Computer Virus Crisis (published by Van Nostrand), said the entire incident is under intensive investigation.

Johnston said that the Trojan code has been made available to developers of the leading commercial anti-virus programs. □

Disinfectant upgrade 'twice as nice'

Will compete with commercial tools

By Henry Norr

Evanston, Ill. — John Norstad, author of Disinfectant, has announced plans for a major upgrade that could make the free and widely used anti-virus tool more than competitive with commercial utilities.

Disinfectant 2.0 will "have twice the features and be twice as nice" as the current version, 1.6, Norstad said. The new version, which he said he hopes to complete in "several months," will retain the program's simple interface and add several features aimed at computer

novices, in addition to a variety of new menu options for power users.

Planned enhancements include:

- ▶ A Startup document (INIT) that blocks known viruses.
- ▶ Scheduled scans, so that the program could be set, for instance, to start up at 3 a.m. and scan all AppleShare servers on a LAN.

- ▶ Background scanning and program switching under MultiFinder.

- ▶ A configurability feature, so that users can insert information that will enable the program to detect future viruses.

- ▶ Context-sensitive Help linked to an improved on-line documentation file, which can be printed with a variety of formatting options.

- ▶ New detection techniques, including check-summing and

mechanisms for detecting clones of existing viruses.

The current version of Disinfectant is available from most on-line services. In addition, copies can be obtained by sending a self-addressed stamped envelope and a floppy disk to John Norstad, Northwestern University, 2129 Sheridan Road, Evanston Ill. 60208. □

Digital Vision ships \$450 color board

By Roger Karraker

Dedham, Mass. — The cost of getting color images into Mac II computers fell again this month when Digital Vision Inc. began shipping its ComputerEyes Color Digitizer, a \$450 board that captures black-and-white, eight-bit color and 24-bit color images from standard video inputs.

The digitizer, which occupies a single NuBus slot in a Mac II series computer, works with color graphics boards from Apple and other vendors to capture color images. Unlike frame-grabber boards manufactured by companies such as Mass Microsystems Inc., Data Translation Inc. and Truevision Inc., the ComputerEyes Color Digitizer does not "grab" a moving image.

Instead, the board digitizes a stable "freeze frame" from any NTSC (National Television System Committee) source, including videocassette recorders, camcorders, motion video cameras, videodiscs or still-video cameras. Images are captured at 640 by 480 pixels and can be saved in TIFF or PICT2 formats for export to desktop publishing, animation or multimedia applications.

The unit supports the separate chrominance and luminance S-Video inputs available on new high-end S-VHS and Hi-Band 8mm VCRs and camcorders, the company said.

Digital Vision also developed the \$250 ComputerEyes digitizer, a board for capturing black-and-white and eight-bit gray-scale images.

Digital Vision Inc. is located at 270 Bridge St., Dedham, Mass. 02026; (617) 329-5400. □

Designer of Disinfectant says it's a team effort

John Norstad designed and wrote Disinfectant, but he credits a host of colleagues and even competitors for helping him build a program that has earned wide respect among Mac users and network administrators struggling to contain the virus threat.

Norstad, computer analyst in the Academic Computing and Network Services group at Northwestern University in Evanston, Ill., began work on the first version of Disinfectant in November 1988, and he remains its principal designer and sole programmer. But the program has evolved, Norstad said, largely from the contributions of two groups that are in almost constant contact via on-line networks.

▶ MacMash, a private discussion group that includes the authors of most other leading Mac anti-virus programs, among them Apple's Virus Rx team; Robert Woodhead, the author of HJC Software Inc.'s Virex; Paul Cozza, author of Symantec Corp.'s SAM; and two shareware programmers, Chris Johnson, author of the GateKeeper, and Jeff Shulman, author of VirusDetective. The group, which Norstad called "the single most effective organization in the



Computer analyst John Norstad supports Mac and TCP/IP networks at Northwestern University, in addition to anti-virus programming.

ongoing war against Mac viruses," exchanges ideas and technical information over the Internet, a high-speed worldwide network connecting major colleges, universities, government labs and high-tech companies.

▶ The Disinfectant Working Group, a group that overlaps with MacMash but also includes interested non-programmers. The group has helped Norstad design, debug and document Disinfectant since its first release. He called the group "absolutely invaluable to me ... I can't even count the number of sug-

gestions made by various people in the group that have ended up as part of the program, and how many really bad ideas I've had that fortunately did not make it in because of the group's rejection."

Norstad said he has "very friendly relations" with his commercial "competitors." "I've never met Paul [Cozza], but on many days I feel like I know him better than the guy I share an office with."

Norstad, who said he has been a hacker for 27 of his 41 years, was one of the original designers and programmers of Odesta Corp.'s Helix database. Northwestern, he said, has been "incredibly generous in letting me do a great deal of my development work on Disinfectant on company time, and even more generous in letting me give the program away for free." — By Henry Norr

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More Rave Reviews for the #1 SQL Database.

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Oracle for Mac Solves DBMS Puzzle SQL/HyperCard Combo Produces Sophisticated Applications

By Susan Janus

Database giant Oracle Corp., of Belmont, Calif., recently rounded out the list of platforms supported by the company's relational database management system (DBMS) with the release of Oracle for Macintosh.

The new Mac DBMS teams the power of Oracle's Structured Query Language (SQL) with HyperCard's customizable and easy-to-use interface.

This combination allows Mac developers to create sophisticated applications that appear simple to users—a unique software-development opportunity unavailable on any other platform, including the PC, according to early corporate users we contacted.

In addition, users said, the network version of Oracle for the Mac allows the advantages of the HyperCard interface to serve as a front end to existing corporate relational databases residing on other platforms, such as mainframes and minicomputers.

Consequently, the Mac software has great potential for success in the

Oracle for Macintosh

DBMS Brings New Power and Face to Mac Application Development

WHAT CORPORATE BUYERS LIKE

- Offers SQL capabilities
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MacUser, June 1989

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MacWeek, March 14, 1989

"Get yourself a copy of ORACLE for Macintosh and get a flexible tool-kit that can be molded to solve just about any database problem."

MacGuide Magazine, June 1989

oping database management systems to connect departmental Macs to larger systems. Jeff Menz, a systems analyst for a scientific R and D organization, is currently using Oracle for Macintosh to develop a system that will give the company's numerous Mac users access to an Oracle database running on a VAX. Using the network version, Menz will link departmental AppleTalk networks to the VAX over a TCP/IP network.

Oracle Provides the Groundwork

The key benefit of Oracle's product is that "all the fundamental technical work—the protocols, the compatibility with the AppleTalk network—has been done by Oracle," Menz said. "I just have to build the HyperCard interface and do the database design work."

The result will be an Oracle relational database application on the VAX with a HyperCard front end that Mac users feel comfortable with, he explained. Also, the company will have one logical relational database instead of numerous fragmented local databases. This allows tighter security, improved data integrity and better performance, he added.

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Gassée

From Page 1

This latest sign of chaos within Apple's headquarters here comes less than two weeks after the resignation of Apple USA President Allan Loren, the appointment of Michael Spindler as chief operating officer and an executive management restructuring that reduced Gassée's responsibilities (see MacWEEK, Feb. 6).

Apple also has been dealing with bad news on the sales front, last week learning that a major government contract may have fallen through (see related story, Page 75).

In recent months, Gassée and Sculley have been at odds over the company's product directions, sources said. At a meeting with Apple employees earlier this month, Sculley implied that Gassée's product development group was to blame for failing to introduce low-end machines, a weakness in the company's product line that industry and financial analysts say is jeopardizing Apple's long-term viability in the highly competitive personal computer arena.

"Jean-Louis and Apple Products are the scapegoats for impotent and fad marketing generated by other Apple executives," said Guy Kawasaki, former Apple evangelist.

Gassée's pending departure marks the end of a longstanding relationship with Sculley that dates back to the ouster of Apple co-founder Steve Jobs in 1985. In his 1987 book, "Odyssey," Sculley wrote, "Gassée represented Apple at its best — slightly irreverent, at times arrogant, but always incredibly insightful and smart. Gassée had the gift to articulate the romance of our business as few others could, or would dare."



In a corporate drama that has left employees confused and demoralized, Apple CEO John Sculley remains in position, while Jean-Louis Gassée and Allan Loren haven't fared as well.

Filling Gassée's role as a spiritual leader and product visionary within Apple would be difficult, according to observers.

"In a large sense, he was one of the last bastions of the old Apple spirit," said David Ramsey, a former Apple engineer and author of MacPaint 2.0. "When I joined Apple, he was up there with [the] engineers, and you could just wander in and talk to him."

"He was unique among the Apple executives in being a real computer nut," Ramsey added. "John Sculley may be a nice guy, but he certainly doesn't have the support from engineering that Gassée did."

"Gassée was the one who decided to put the processor direct slot in the SE and drove the decision to use NuBus on the Mac II," said Kin Seto, vice president of the Weillenne Group of San Carlos, Calif., and former head of Apple

evangelism under Gassée. "Apple needs someone with vision to come out with [the] next-generation Macintosh. Gassée was the person who could have provided that vision."

"Less important than who is departing is filling the positions," said Peter Rogers of Robertson Stephens & Co., a San Francisco investment company. "I'm still optimistic. Apple has enormous resources and an enviable market position."

"The issue here is not who the personalities are but what is the right product strategy," said Gordon Eubanks, CEO of Symantec Corp. of Cupertino, Calif.

According to a report in the Wall Street Journal Feb. 7, Sculley will take charge of product development upon Gassée's resignation until a successor can be found. □

Connie Guglielmo contributed to this report.

Dealers say Free Trial Run gave customers a free ride

By Pamela Pfiffner

San Francisco — Preliminary reports on Apple's fall promotion campaign indicate that the "Free Trial Run or Cash Back" promotion was really a free rental for consumers and a trial return for many dealers.

The program offered buyers rebates on Apple peripherals or gave qualified customers a chance to take a Mac home for up to three months with the option of returning it without charge. Dealers said Apple had told them to anticipate returns of less than 6 percent on the take-homes. Apple has not yet released the actual figures from the promotion, which ran from Oct. 14 through Jan. 15, but many dealers experienced 70 percent to 90 percent returns, according to MacWEEK interviews and an informal survey carried out by dealers over AppleLink.

Simon Chow, president of Computer Selection in Sunnyvale, Calif., said that of the 60 customers who took advantage of the free trial run at his two stores, 68 percent returned the units. Another 60 interested customers did not qualify. "Many customers had a clear intention to rent a Mac," he said. "In some cases they planned to buy it after the program was over but at a different store."

The "Free Trial Run" program was modeled on Apple's 1984 "Test Drive a Mac" campaign. "The earlier promotion worked because the trial period was only one night or at most a week," said Steve Zee, vice presi-

dent of The Computer Store in Bryn Mawr, Pa. "It conveyed a sense of urgency, like there are other people waiting to get their hands on the Mac. This promotion said, 'Come and get it — we can't get rid of them.'" Returns at his store topped 90 percent, Zee said.

Even stores where the promotion was moderately successful reported a high rate of returns. Ron Ensminger, vice president and general manager of Visual Sound in Broomall, Pa., said in comparison with dealers he talked to who had returns of more than 80 percent, his store did well. "We had 50 percent. I guess that's excellent."

While Apple said it will not comment until its final results are in later this month, a spokeswoman said, "We do know the promotion was successful in generating store traffic and that many dealers were successful in converting people to take the rebate rather than take the free trial run."

Many dealers, anticipating headaches from the promotion's unwieldy paperwork and potential for customer abuse, opted to participate only in the rebate portion of the promotion.

"If we did the free trial run here, every art department in New York would borrow a system for 90 days," said David Pincus, president of Microcomputer Publishing Center in New York. He added the rebate offer went "very well" at his store. □

Aldus

From Page 1

ing in 0.1-point increments are now available. PageMaker 4.0 supports type sizes to 650 points, up from the previous 127-point limit.

► Color. The new release will incorporate PageMaker Color Extension, previously a separate \$195 module, that offers support for Pantone colors and the ability to import,

display and print color images. Aldus PrePrint, a \$495 color separation and enhancement product also scheduled for second-quarter shipment, will produce four-color separations of PageMaker 4.0 documents.

► Links management. A links feature lists each text and graphics file in a PageMaker document, notifies users if the original file has been changed and lets them

import the new version if desired.

► Long documents. PageMaker 4.0 files can contain up to 999 pages, up from 128. Multiple files can be linked to create a "book" for which a common table of contents and index can be generated.

► Table creation. A separate Table Editor utility lets users build tables that can include text and graphics.

PageMaker 3.0 users can upgrade to Version 4.0 for \$150.

Aldus' announcement that it will definitely acquire Silicon Beach Software signifies both a marriage between two Macintosh pioneers and a trend toward consolidation in the industry, observers said.

The combined companies "will represent a dominant force in the Mac software community," Kirk Loevner, director of the Apple Developer Group, said at an Aldus press conference here last week.

Silicon Beach, said Charlie Jackson, its president and founder, will continue "to do business as usual," operating from its San Diego headquarters as a wholly owned subsidiary of Aldus. Jackson will serve as vice president and general manager for several months and then will recruit a successor, freeing him to pursue other interests, he said.

Silicon Beach's products will still be marketed under its label, at least

in the short term. Personal Press, a low-end desktop publishing product that Silicon Beach plans to ship this quarter, will have links to PageMaker in its second version, Aldus said.

Silicon Beach's fans need have no fears that its laid-back Southern California style will evaporate. "We'll still wear Hawaiian shirts at trade shows," Jackson promised. □

Mac IIx

From Page 1

give the IIx its performance boost over previous models include a SCSI direct memory access chip and peripheral controllers for faster I/O serial, floppy disk and Apple Desktop Bus operations.

In addition to six NuBus slots, the IIx has a processor direct slot (PDS), similar to the slot in the Mac SE/30. However, SE/30 PDS boards will require some modifications to work on the new machine. Like the IIci, the IIx has a separate slot for a static RAM cache card. The new machine reportedly uses a RAM SIMM (single in-line memory module) design that resembles that of the LaserWriter IINTX rather than that of previous Macs.

Unlike the IIci, which has a 25-MHz 68030 chip, the IIx does not offer on-board video support. □

For the Record

The Jan. 30 issue of MacWEEK reported that Wheels for the Mind, the now-defunct Apple journal for higher education, had been published at Boston University. It was actually produced at Boston College.

In the price/performance chart accompanying our Jan. 16 comparison of magneto-optical drives, the slower benchmark rating for Pinnacle Micro Inc.'s REO-650 was identified as a 1,024-byte sector cartridge. The performance noted was from the drive using a 512-byte sector cartridge. The correct rating for the large sector cartridge is 10.5 seconds.

In our Oct. 17, 1989, comparison of Compatible System Corp.'s Ether+ and Adaptec Inc.'s Nodem, a configuration error led us to conclude that the Ether+ was significantly faster than the Nodem in one of the tests. This is not true. The correct results, in seconds, appear below.

Corrected SCSI Ethernet

Test	Nodem	Ether+
SE/30 Upload	205	201
SE/30 Download	85	84

Times are in seconds

Quark keeps pressure on Aldus

While Aldus Corp. fired the latest salvo in the fierce competition for desktop publishing market share (see story, Page 1), its competitors are revving up versions they hope will erode PageMaker's 400,000-strong user base.

In December Letraset of Paramus, N.J., shipped DesignStudio, a \$795 program targeted at professional users.

Quark Inc. of Denver is working on a major revision of QuarkXPress, reportedly scheduled for an early March introduction at the Seybold Seminars Ninety Professional Publishing Conference in Boston.

QuarkXPress 3.0 will address

many user requests, according to sources who have been beta testing the product. The new version will let users place elements across a spread, eliminating the current required gutter. It also will offer free rotation of text and graphics and multiple selection of text and graphics boxes. Enhanced color capabilities will include the ability to specify bleeding elements without having to create an oversized page and manually adding crop marks. Matching a metaphor that both PageMaker and DesignStudio offer, XPress 3.0 also will add some form of pasteboard, sources said. — By Carolyn Said

Claris

From Page 1

ications (IAC) features of System 7.0, these applications will be able to talk to each other and exchange information, company officials predicted.

As an example of that strategy, Claris said it would later this year release the Executive Query Tool technology acquired from Red Brick Systems (see MacWEEK, Feb. 6) as a stand-alone product instead of integrating it with FileMaker or other full-function applications. "The goal is not to marry just

the query and browsing tools but to provide a whole information management tool kit," said John Zeisler, Claris marketing vice president.

The briefing was the latest in a series of statements by Claris promoting its vision of IAC, including a demonstration last October of live links between Claris CAD and FileMaker II (see MacWEEK, Oct. 4, 1989) and its sponsorship of the XTND file format standard (see MacWEEK, Oct. 10, 1989).

"All of our work in this area is intended to amplify what Apple is doing with System 7.0

development," said Yogen Dalal, Claris vice president of product development. "We have a vision of where to take Macintosh technology under System 7.0. ... Applications need to become more focused."

Dalal added that Claris is looking at Informix's Wingz, from which it acquired key technologies (see MacWEEK, Jan. 6), not as a spreadsheet but as an analysis tool. He said that Claris views the package as three independently useful technologies: the spreadsheet engine, the data-driven graphics routines and the HyperScript language.

Dalal said that Claris' decision to use HyperScript in any of its products will depend partly on the availability and functionality of Apple's systemwide scripting language, AppleScript. "Little but the intent has been published," he said.

Claris' recent string of technology acquisitions is part of its strategy to develop these new types of applications. "Buying technologies gives us a fast start," Dalal said. "The company has a good track record of putting our stamp on products, not just the look and feel but the functionality." □

MacroMind

From Page 1

be rearranged and synchronized to digitized sound.

► MacroMind will roll out three new products, including the next generation of its \$695 MacroMind Director animation program. Version 2.0 will incorporate the MacroMind Director Interactive Toolkit, an add-on module that adds a HyperTalk-like scripting language called "Lingo" to Director and that allows developers to create interactive presentations. An undocumented version of the Toolkit has been available to developers since June.

The company is also expected to introduce 3DWorks, a high-end 3-D rendering and animation program, and to announce it has acquired distribution rights to MediaMaker, a low-cost, Mac-based editing system developed by the British Broadcasting Corp.'s Interactive Television Unit (see MacWEEK, Aug. 15, 1989).

3DWorks lets users render 3-D objects using full-color lighting and shading effects and animate the 3-D sequences, which can then be exported to Director.

The program will accept 3-D data from modeling programs, including Parametric Inc.'s Swivel 3D and Silicon Beach Software Inc.'s Super3D. It also contains translators for importing files in DXF (Drawing Interchange Format) and IGES (Initial Graphics Exchange Specification) formats, which are supported by most CAD programs.

Expected to go into beta testing later this month, the new application will also be the first to support the 3DGF (3-D Geometry File) format developed by 3DWorks author Julian Gómez, as well as a format compatible with RenderMan, Pixar's scene description language.

MediaMaker, a program developed by the ITU in collaboration with Apple's Multimedia Lab, lets users assemble presentations that combine Mac-generated 24-bit color graphics, full-motion video, still images and CD and digitized sound.

"Picons," picture icons that represent graphics or audio and video clips of any length or size, are displayed in scrollable windows called "palettes." Individual picons, which can be stored and reused, are played and edited using point-and-click tools.

Presentations are assembled by dragging picons into a special window called the "track." MediaMaker plays back the source material from disk, CD-ROM, laser discs, 8mm tape players and other media, eliminating the need for huge storage devices.

Although MediaTracks will only record in black and white, users will be able to superimpose color graphics saved as PICT files.

MacroMind Inc. is located at 410 Townsend, Suite 408, San Francisco, Calif. 94107; (415) 442-0200.

Farallon Computing Inc. is located at 2000 Powell St., Emeryville, Calif. 94608; (415) 596-9100. □

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LabVIEW 2.0 finally out the door

By Rochelle Garner

Austin, Texas — Well over a year after it was announced by National Instruments, Version 2.0 of the LabVIEW data-acquisition control and programming software is out the door.

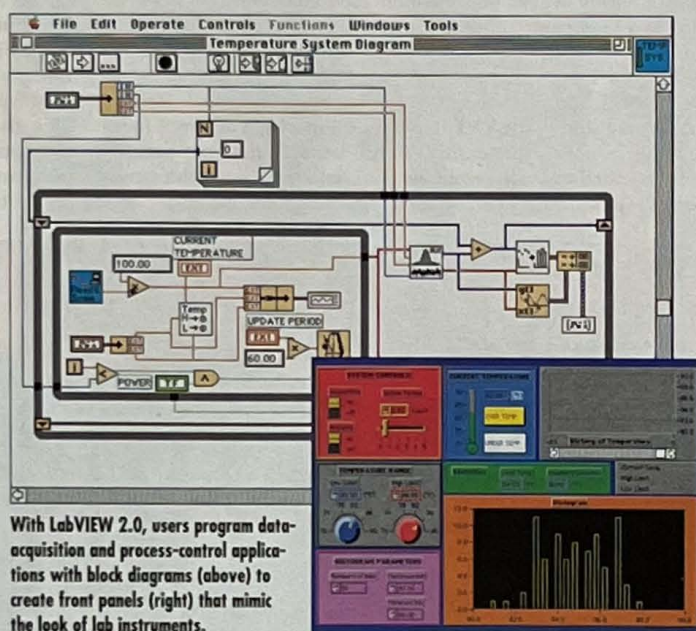
Free to current owners or \$1,995 to new users — the same price as Version 1.2 — LabVIEW features a powerful block-diagram programming language that lets users create applications that control lab or factory instruments from the Macintosh. From the user-designed graphical program, LabVIEW generates a front panel of "virtual instruments" that mimic the controls of the lab instruments.

"Conceptually, LabVIEW 2.0 is the same [as the previous version], but with so many improvements it's like an entirely new program," said beta-tester Glenn Graham, project scientist in the separations and process fundamentals group of Union Carbide in South Charleston, W.Va.

Enhancements in the new LabVIEW include:

- ▶ A compiler that runs virtual instruments 10 to 100 times faster than the interpreter in the previous version does. "With the compiled execution, I can run programs in five minutes that used to take 30 minutes," said Steve Conquergood, chief engineer with CXT Ltd., a manufacturer of concrete railroad ties in Edmonton, Alberta.

- ▶ The capability to use extensions from any other compiled language, such as C or Pascal. This feature lets users take advantage of existing applications to create virtual instruments as well as to write drivers for data-acquisition or process-control hardware from other vendors.



With LabVIEW 2.0, users program data-acquisition and process-control applications with block diagrams (above) to create front panels (right) that mimic the look of lab instruments.

- ▶ Color, which makes it easier for users to distinguish among different instruments and switches incorporated on a single screen.

- ▶ Improved editing features, such as the capability to cut, copy and paste programming blocks and instruments. In addition, LabVIEW 2.0 offers a feature National Instruments calls "wire stretching," which lets users insert or replace blocks in an existing program without having to rewire logical connections.

- ▶ The ability to create a library of applications. As users program a virtual panel, they can design an icon that executes the program. These subprograms can be stored for later use or revision.

"The ability to collapse one front panel down to a single icon, then

reuse it within a larger instrument is probably the most powerful thing about LabVIEW," said Conquergood, who plans to start his own consulting company this year. "Based on what I've seen, I've decided to use it as the main portion of my consulting business. I'm virtually founding my business on LabVIEW 2.0."

In a separate announcement, National Instruments said it has received a patent on the technology underlying its block diagram structures and the way those blocks link to front panels that can be condensed to a single icon.

LabVIEW requires 4 Mbytes of memory and a hard disk.

National Instruments is located at 12109 Technology Blvd., Austin, Texas 78727; (512) 794-0100. □

New model, price cut from Lasergraphics

By Pamela Pliffner

Irvine, Calif. — Lasergraphics Inc. last month released a new high-end film recorder and slashed the price of its original model by \$1,000.

The new unit, the Lasergraphics Film Recorder Plus, features 33-bit color, providing color sweeps and shading without banding, as well as sharper details and fonts. It rasterizes images 50 percent faster than its predecessor; on average, Mac users can expect output of about 30 slides per hour, the company said.

The Mac-only version of the LFR Plus, priced at \$13,750, rasterizes PICT and PICT2 files on the Macintosh with Lasergraphics' proprietary MacRascal software, at a user-selectable resolution of 2,000 lines for proofing or 4,000 lines for final output. A recent upgrade, Version 1.06, makes MacRascal compatible with Adobe Systems Inc.'s Adobe Type Manager. Although it does not directly

support PostScript, the LFR Plus can be used with Freedom of Press, a \$495 PostScript-clone software interpreter from Custom Applications Inc. of Billerica, Mass., to generate PostScript output.

IBM PC-, PS/2- and mainframe-based versions of the LFR Plus also are available, along with configurations that support both Macs and either PCs or PS/2s.

The Macintosh version of Laser-

graphics' original LFR, a 24-bit color film recorder introduced in 1988, is now priced at \$8,750. An LFR configured for use with both Macs and either PCs or PS/2s costs \$10,950.

Both LFR models are compatible with all current Macs and require a minimum of 2 Mbytes of memory.

Lasergraphics Inc. recently moved to 20 Ada, Irvine, Calif. 92718; (714) 727-2651. □

Cayman releases a QuickMail-Unix gateway

Cambridge, Mass. — GatorMail-Q, a recently released gateway marketed by Cayman Systems Inc., lets users of CE Software Inc.'s QuickMail exchange electronic mail with Unix-based minicomputers and workstations.

StarNine Technologies Inc. of Berkeley, Calif., developed the gateway, originally dubbed Mail*Link. Cayman also will market StarNine's simple mail transfer

protocol (SMTP) gateway for Microsoft Mail as GatorMail-M.

Priced at \$995 for a 10-user package, GatorMail-Q transparently links QuickMail to mail systems that support SMTP, the mail protocol used on most Unix computers and TCP/IP networks.

Cayman is at University Park at Massachusetts Institute of Technology, 26 Landsdowne St., Cambridge, Mass. 02139; (617) 494-1999. □

News BRIEFS

Crate Technology introduces line of portable hard disks

North Hollywood, Calif. — Crate Technology Inc. has entered the portable hard disk market with a new line marketed under the ToteCrate name.

Measuring 6 inches wide by 7 inches deep by 2.5 inches high, the ToteCrate series includes 20-, 30-, 40-, 60-, 80- and 100-Mbyte drives priced from \$455 to \$1,049. The 100-Mbyte drive is based on a Toshiba mechanism; the others have Seagate drives. The design can accommodate any 3.5-inch drive, Crate said, and larger capacities are due in the second quarter.

The four-pound units have steel cases, and the company said it adds heavy-duty shock mounts to supplement those built into the drive mechanism.

Crate offers a \$16.95 carrying case for the drives. A 155-Mbyte TEAC tape-cassette backup unit in the ToteCrate case is due out later this quarter, the company said.

Crate Technology Inc. is located at 6850 Vineland Ave., Building M, North Hollywood, Calif. 91605; (818) 766-4001.

Berkeley Systems adds new screen-saver options to After Dark

Berkeley, Calif. — After Dark users tired of having wiggly worms or brilliantly colored shapes saving their screens can now watch their desktops turn into ever-shifting puzzle grids or put their Macs in "autodoodle" mode.

Berkeley Systems Inc. last week released Version 1.1 of After Dark, its popular \$39.95 screen-saver package. The free upgrade adds the puzzle, the doodles and a new geometric line design to the 16 other choices in the program's Control Panel list. It also promises improved performance and compatibility. Among options retained from the original After Dark are password protection and modules that let users add styled, multiline messages and PICT-format logos for display when the screen is blank.

Registered owners can upgrade for a \$5 handling fee or by running an update application posted on electronic bulletin board systems.

Berkeley Systems Inc. is located at 1700 Shattuck Ave., Berkeley, Calif. 94709; (415) 540-5535.



Semaphore CD-ROMs list ZIPs, Mac owners

Aptos, Calif. — Semaphore Corp. is now shipping three CD-ROM titles designed to help businesses do business. A disc called Z-5 provides a national database of U.S. addresses and five-digit ZIP codes. Extensive search and retrieval capabilities include identifying street names and house-number ranges within cities with multiple ZIP codes.

The Z-5 disc is sold on a subscription basis for \$299; after six months the disc expires and a replacement is sent to registered owners.

Semaphore also is shipping A Quarter Million Mac Users, a listing of 250,000 Mac owners. The \$4,900 product is targeted at direct-mail services and Mac third-party vendors. Software included with the disc allows searches keyed by company, name, ZIP or phone number, as well as by subgroups within any one of these sorts.

The most recent addition to Semaphore's CD-ROM line is Irv Brechner's Industry Lists. For \$1,900, the disc provides 10 lists, including distributors, value-added resellers, laser printer users, mail-order houses, computer journalists and retail stores.

Semaphore Corp. is at 207 Granada Drive, Aptos, Calif. 95003; (408) 688-9200.

All These Videos Were Created By A Mouse

COLORSPACE IIi

If you can point and click, you can produce professional quality color videos with ColorSpace IIi. The video card that lets you overlay anything created on a Mac II onto live or recorded video.

ColorSpace IIi's



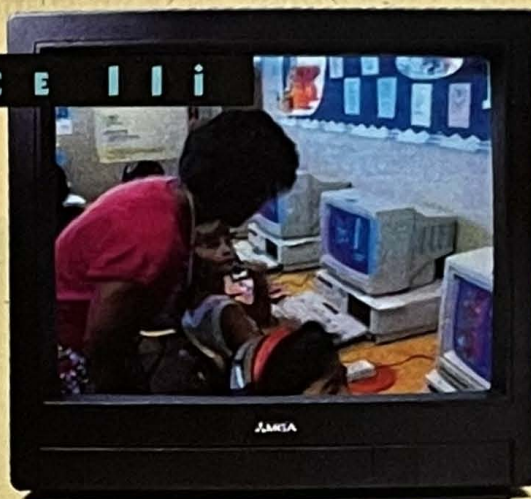
advanced
genlocking
technology

assures crisp, high-quality images by synchronizing Mac graphics, titles, and animations to any standard TV video signal. You can even digitize still images from a video camera.

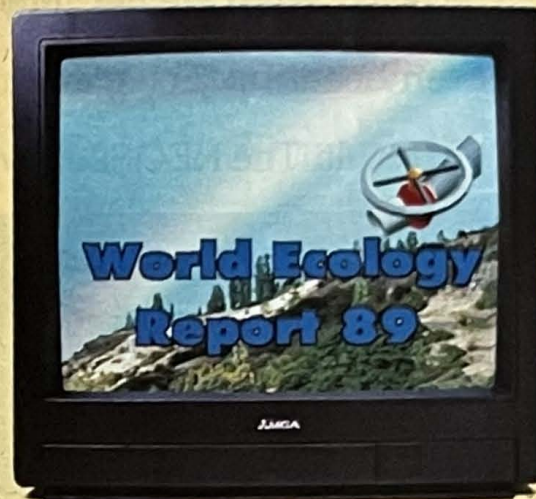
And while ColorSpace IIi is easy to use, it lets you get as sophisticated as you want. Because it works with all the most powerful Mac software—HyperCard,[™] SuperCard,[™] and Director.[™]

All of which makes ColorSpace IIi the technology of choice for today's desktop video applications: animations; film and commercial storyboards; sales/promotional/instructional videos.

For details, your nearest dealer, and to order our \$9.95 demo tape, call 800-522-7979. And let your mouse make you a star.



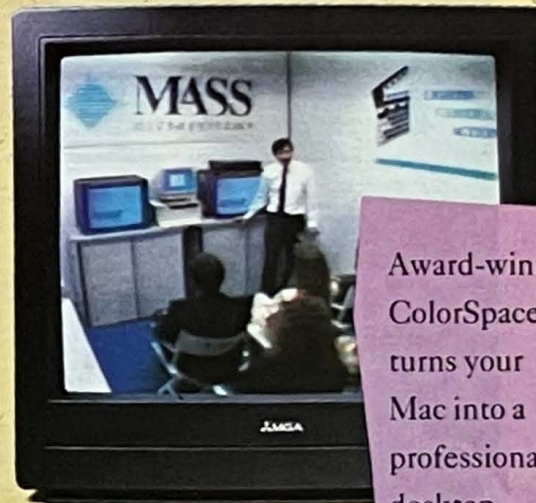
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"It should handle different sizes of paper easily."

It does. Interchangeable cassettes let you switch from standard- and legal-size to envelopes to labels, all in a matter of seconds. And a single supply



Paul Wheeler
Boise, ID.
"Paper handling."



suggestions into a box.

toner cartridge that you just pop in when needed, clean and simple.

And as for operating noise? Well, its name speaks for itself.

"Ideally, I'd like a printer that combines lots of speed and memory with good resolution."



Holly French
San Diego, CA.
"Speed and memory."

More, faster, better. Our engineers heard it time and time again. So they gave the Silentwriter2 a lightning-quick processor and lots of memory. So you can use today's most sophisticated graphics software. For better-looking brochures, labels and



Inter-changeable cassettes let you switch document sizes in seconds.

transparencies.

"To have Adobe® PostScript® built in would be key.

The more fonts, the better."

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The hard part was making it this easy.

interpreter as well as HP® LaserJet Plus™ emulation. And we made the Silentwriter2 260 with features like LaserJet® II emulation, which supports most standard software. What's more, it's a terrific value—the best in



Scott Hainline
Stamford, CT.
"More fonts."

Specifications

Print Speed:
Up to 8 pages per minute

Language:
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290: Adobe PostScript, PCL

Interfaces:
260: Parallel, RS 232-C
290: Parallel, RS 232-C, RS 422, Apple® LocalTalk®

Fonts:
260: 8 resident, LaserJet-compatible, optional SilentFont™ cards
290: 35 resident Adobe, PostScript Screen fonts for Macintosh® and Microsoft® Windows

Standard Memory:
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290: 2 MB (expandable to 4)

Resolution:
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you'll like what you see. After all, you designed them.

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Network backup from ADIC

By Henry Norr

Redmond, Wash. — Advanced Digital Information Corp. last week entered the Macintosh backup market with a line of cartridge-tape subsystems that can perform unattended backups of multiple workstations and servers over AppleTalk.

Co-developed with 3M Corp. of Minneapolis, ADIC's MACback line ranges from

the MACback 60, a 60-Mbyte drive priced at \$1,895, to the MACback 8000, a \$6,495 unit equipped with a 10-cartridge autochanger that allows it to store up to 1.2 Gbytes of data. The series also includes the MACback 128, priced at \$2,295; the MACback 256, a \$3,595 unit with dual drives; and the MACback 4000, a \$5,995 autochanger unit that can handle up to 600 Mbytes of data.

The MACback 60 and 4000 use 60-Mbyte DC2120 tape cartridges, while the others use the 128-Mbyte DC2165 format.

The MACback software allows users or administrators to schedule unattended backups from servers or networked workstations to a MACback attached to any LAN node. The utility, which also will be released later this quarter as a \$99 stand-alone application, provides mirror, incremental or file-by-file backups, with filters that allow selection of specific volumes, folders, files, file types and dates.

ADIC said its program is unique in providing complete backups of AppleShare servers, including access privilege information and the full contents of the server folder. Files can be copied to an AppleTalk-capable DEC VAX or to any other volume that can be mounted on the Mac desktop.

Frank Webster, vice president of engineering at Scientific Technologies Inc. of Hayward, Calif., said that before he began beta testing MACback 128 in December, he carried an Apple Tape Backup 40SC from Mac to Mac to back up the engineering drawings, ads and documentation the manufacturing automation company generates. "Being able to back up after hours, when there's no impact on our equipment usage, is a real convenience," he said. "The only thing you have to worry about is the tape getting full."

Advanced Digital Information Corp. is at 14737 N.E. 87th St., P.O. Box 2996, Redmond, Wash. 98073-2996; (206) 881-8004. □

Tecmar tape drive stores 525 Mbytes

Solon, Ohio — Tecmar Inc. soon will deliver a backup system that it calls "the industry's fastest and highest-capacity SCSI tape drive."

Due at the end of this month, the new QT-525s can store 525 Mbytes on extended-length DC6525 cartridges or 320 Mbytes on DC6320 cartridges. The \$3,495 drive will feature a data transfer rate of 14 Mbytes per second, according to Tecmar. With Tecmar's SCSI adapter, the QT-525s also can be used with IBM PC ATs, PS/2s and compatibles.

Late last year Tecmar released the QT-150s, a \$1,895 SCSI version of a drive that was previously available to Mac users only through a special interface card. Backing up and restoring at 6.25 Mbytes per minute, according to the company, the QT-150s can store 150 Mbytes of data on a DC600XTD cartridge or 250 Mbytes on the longer-length DC6250 cartridge.

The QT-525s will read, but not write, tapes from the QT-150s and Tecmar's other quarter-inch tape drives. Both new drives ship with Tecmar's QTBackup software, which permits background and unattended incremental, mirror or selective backups.

Tecmar Inc. is at 6225 Cochran Road, Solon, Ohio 44139-3377; (216) 349-0600. □

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"There is little doubt that the Ether+ unit from Compatible Systems is the better buy. The construction is superior, the performance is better, the software is more sophisticated, and the documentation is more up to Macintosh standards."

MacWEEK Magazine
October 17, 1989

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TEAC, Exabyte boost tape capacities

By Henry Norr

Montebello, Calif. — Cutting-edge technologies such as magneto-optical discs and digital audio tape may be the future of micro-computer backup, but while users wait for prices of those systems to come down, enterprising developers working with more-familiar tape formats continue to achieve increases in capacity. In addition to expanded-capacity quarter-inch minicartridge systems, the developments on the tape horizon include:

► TEAC America Inc., based here, will this month begin shipping samples of a new drive that can store 600 Mbytes on a single cassette at a rate of about 14 Mbytes per minute. Volume production of the 3.5-inch half-height unit is scheduled to begin in April. The drive, which TEAC calls the MT2ST/F, uses a higher-density variant of the technology incorporated in the company's popular 60- and 160-Mbyte cassette systems. The new drives, which a TEAC representative said are likely to be priced "well

under \$2,000" when the company's OEM customers bring them to the end-user market later this year, will read tapes formatted on the older cassette drives.

► Volume shipments of a new version of the 8mm videocassette storage system manufactured by Exabyte Corp. of Boulder, Colo., and marketed by several Mac storage vendors will begin this summer, Exabyte said. The new EXB-8500 drives will increase capacity from 2.2 to 5 Gbytes, and boost transfer rates to 500 Kbytes per second, according to the company. The current model, the EXB-2000, will remain on the market, and the new drive will read and write tapes in the older format. □

MicroNet adds 320MB tape units to backup line

Irvine, Calif. — MicroNet Technology Inc. last month bolstered its growing line of backup systems with a cartridge tape unit that can store either 320 or 525 Mbytes per tape.

The new Micro/Tape-320, priced at \$2,495, is built around a Tandberg mechanism. It uses DC6320 quarter-inch tapes that hold 320 Mbytes of data or a DC6525 extended-length tape that boosts capacity to 525 Mbytes. The drive allows multiple backup sessions on the same tape.

On a Mac II with 5 Mbytes of RAM, the Micro/Tape-320 can back up and restore at 7 Mbytes per minute, according to MicroNet. Bundled software can perform mirror, file-by-file or incremental backups.

In recent months MicroNet also has introduced a 155-Mbyte portable tape cassette drive, a 1.4-Gbyte digital audio tape (DAT) unit and an erasable optical drive.

MicroNet Technology Inc. is located at 20 Mason, Irvine, Calif. 92718; (714) 837-6033. □

Upgraded Deltaic optical now meets ISO standard

San Jose, Calif. — Deltaic Systems last month began shipping an updated model of its OptiServer 600, a \$4,799 optical drive that now conforms fully to the International Standards Organization's erasable optical standard. ISO conformance permits users of the Deltaic drive to exchange data with other ISO-compliant drives.

In addition, the OptiServer 600 uses a recently upgraded version of the Ricoh 5.25-inch rewriteable optical drive, which is about 30 percent faster than the previous Ricoh drive, Deltaic said.

Deltaic is at 1977 O'Toole Ave., Suite B206, San Jose, Calif. 95131; (408) 954-1055. □

Capilano Computing to distribute Data I/O's MacABEL PLD software

By Rochelle Garner

Vancouver, British Columbia — Capilano Computing Systems Ltd. and Data I/O Corp. last month announced an agreement under which Capilano will become the exclusive source of Data I/O's MacABEL, a high-level hardware description language for modeling and compiling programmable logic devices (PLDs).

Priced at \$2,350 and scheduled for release at the end of this month, MacABEL will be sold

by both Data I/O and Capilano until March 31, after which it will be marketed exclusively by Capilano. During that period, Capilano will offer MacABEL with its DesignWorks schematic-capture and digital-logic simulation software for \$2,995. Current users of DesignWorks can get MacABEL for \$1,950.

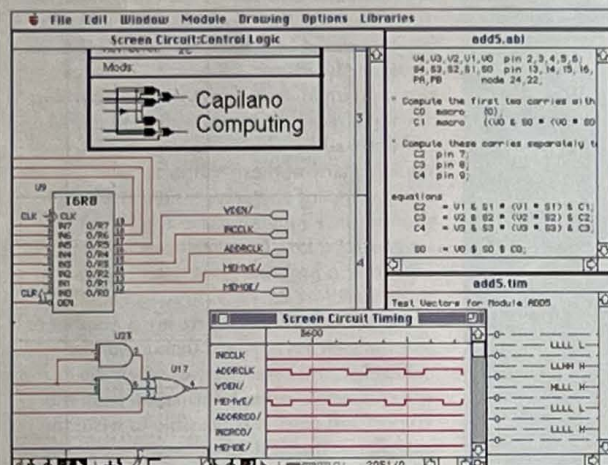
When used together, the programs give electronic engineers the ability to create and simulate PLD circuit schematics, describe the logic using high-level equations, state dia-

grams or truth tables, then compile a PLD design with the fewest possible logic components.

In a related announcement, Capilano said it also will distribute Data I/O's PLDlinx, which converts a schematic diagram into a high-level ABEL description. PLDlinx is due in the second quarter, but pricing has not been set.

Capilano Computing Systems Ltd. is located at 1168 Hamilton St., Suite 501, Vancouver, British Columbia, Canada V6B 2S2; (604) 669-6343.

Data I/O Corp. is located at 10525 Willows Road N.E., Redmond, Wash. 98073; (206) 881-6444. □



Electronic engineers running MultiFinder can use MacABEL's high-level language to describe a programmable logic device (in text window, upper right) as they create circuit schematics and simulate digital logic in DesignWorks.

Excel Software revamps CASE tools

By Carolyn Said

Marshalltown, Iowa — Bolstering its support for large software projects, Excel Software last month updated its complementary computer-aided software and engineering tools, MacAnalyst and MacDesigner.

MacAnalyst 2.0, which generates data and control flow diagrams to analyze complex systems, and MacDesigner 3.0, which automates the creation of a program's structure, are priced at \$795 each, or at \$2,385 for a site license.

The updates share similar new features, many designed to simplify work on large projects, according to Harold Halbleib, Excel president. Among these features are:

- ▶ Global renaming for diagrams and data dictionary.
- ▶ An index window for diagram titles.
- ▶ Scaled diagram views with full editing capabilities.
- ▶ User-selectable verification checking of analysis, design or data-dictionary documents.
- ▶ Editing of stylized text.
- ▶ A collapse feature that levels a large data flow diagram into a hierarchical set of diagrams.
- ▶ Shortcuts and convenience features such as autosave, file locking and improved data-dictionary navigation.

In addition, MacDesigner 3.0 now offers multilevel design diagrams and inheritance diagrams for object-oriented design.

David King, president of software developer David King & Associates of San Diego, said the index window, which generates a tree-structure map of diagrams created, is the most useful of the new features in MacAnalyst 2.0.

Although he complained that existing diagrams need to be reorganized for use with the new version and that some essential features, notably preferences and the ability to generate electronic specs of a program, are still lacking, King called MacAnalyst 2.0 "the closest CASE tool on the Mac that I've seen."

"It forces you into a particular structure and you have to define things properly," he said. "If you don't leave loose ends, you come out with something that will work."

Upgrades to MacAnalyst 2.0 or MacDesigner 3.0 for current users are \$125 per copy or \$375 for a site license.

Excel Software can be reached at P.O. Box 1414, Marshalltown, Iowa 50158; (515) 752-5359. □

Ωhm FormsProgrammer now generates XCMDs

Tiverton, R.I. — Ωhm Software Co. last month announced that its FormsProgrammer software utility now can directly generate external commands for HyperCard.

FormsProgrammer includes drawinglike tools to create forms. Such forms can then be translated to PICT format, Pascal or C source code, or an XCMD. The XCMDs can read in data from a stack, perform HyperCard callbacks and print a detailed form.

FormsProgrammer is priced at \$99; upgrades cost \$10.

Ωhm Software Co. is located at 163 Richard Drive, Tiverton, R.I. 02878; (401) 253-9354; (800) 346-9034. □

Spreadware offers templates for Wingz

Hayward, Calif. — Spreadware last month began bringing its line of low-cost Microsoft Excel and Works templates and applications to Wingz. Nearly 20 Spreadware products are now available for the Informix Software spreadsheet, including Plus Menu, a \$7.95 add-on that puts more than 20 frequently used formatting options directly into a menu, and pro forma, a \$69 set of automated

spreadsheets that generate and analyze projected financial statements. Other Spreadware products, including Minimum Requirements, a \$59 record-keeping and management application, will be available for Wingz later this quarter, the company said.

Spreadware can be reached at P.O. Box 4574, Hayward, Calif. 94540-4574; (415) 794-4388. □

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MacWEEK 1/16/90

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StackWEEK STEVE MICHEL

Externals now go beyond HyperCard

ISSUES & TRENDS

The recent release of Software Ventures Corp.'s MicroPhone II 3.0 accents an aspect of HyperCard that has spread throughout the world of Macintosh software — the

use of external commands and functions.

According to industry folklore, externals, which are means of adding capabilities to programs using other programming languages, were added to HyperCard almost as an afterthought. Yet they have proven to be

one of HyperCard's greatest strengths.

Support for externals has been added to the feature lists of a wide variety of programs, including such diverse applications as Informix Software's Wingz, Silicon Beach Software's SuperCard, Fox Software's FoxBASE+/Mac, and even Preferred Publishers' DAtabase and Vantage desk accessories. The benefits of the widespread use of externals are clear to anyone who has

used these programs and their scripting languages: Any developer can add new and needed features directly to the application.

It is unfortunate that not all software developers have allowed for transparent use of externals from HyperCard. Vantage and DAtabase, for example, use externals that, from the appearance of the documentation, support at least some of the same features as HyperCard externals, but the two DAS' externals are not object-code compatible with HyperCard's, or, indeed, with one another's. Vantage's external commands are called VCMDs, while those of DAtabase are called XTRA features.

Why this incompatibility? One feature of HyperCard's externals is a set of "callbacks." A callback lets the external send a message to HyperCard to make it do some of the work for the external. Typically, callbacks are used to do such things as get text from HyperCard fields, set the values of global variables and evaluate expressions. Of course, many of these callbacks rely on HyperCard's structure: the card/background/stack metaphor and the HyperTalk language syntax. These callbacks will not work in programs that don't support these structures.

On the other hand, there are a number of externals for HyperCard that *do not* use callbacks. And even in cases when the external needs some information from the HyperCard card, it is possible to write the external so that it does not require the use of a callback — any information the external needs can be passed as parameters instead.

The problems of incompatibility.

From the user's point of view, incompatible externals mean users are limited in their ability to copy externals from one program to another. For example, the FileName XFCN developed by Apple's HyperCard wiz Steve Maller is a very useful function that would be nice to use in a variety of situations. However, it doesn't work in programs that don't support HyperCard-standard externals.

From the developer's point of view, HyperCard incompatibility means a lot of special-casing to support different environments. Different glue, or setup, files must be delivered for traditional compilers that tell the compilers how to create the external so that it can interact with the host application. The result is that smaller developers such as Heizer Software with CompileIt! and Teknosys with HyperBasic (both excellent tools for beginning programmers) must reshape their products to support multiple external formats.

There is a better way. Two of the programs mentioned above — MicroPhone II 3.0 and FoxBASE+/Mac — point to a better way of handling externals. Both of these programs are very different from HyperCard, but each accepts most HyperCard externals. They provide for an enhanced set of callbacks that are specific to their applications and both provide a mechanism that lets their programs ignore inappropriate callbacks. We hope more developers follow their lead by providing for standard HyperCard externals as well as an enhanced function set in their programs. □

If you have any tips or other HyperCard-related information, write to StackWEEK, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105. Electronic mail: MCI: STACKWEEK; AppleLink: D1507; Connect: MICHEL.

INTRODUCING NEW DISKLOCK

Unbreakable password protection for the Macintosh

It's sad but true. All it takes is a few minutes with your back turned, and an intruder could walk away with your most confidential data. And you'd never even know it!

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Now the leader in hard disk security announces the ultimate data protection system for your Macintosh. **DiskLock** works with any SCSI hard disk to provide foolproof password protection for individual files, folders, or your entire hard disk. You can even protect *all three levels* with different passwords for absolute maximum security. **DiskLock** automatically locks your files when you shut down or leave your Mac unattended, and alerts you to any unauthorized access attempts.

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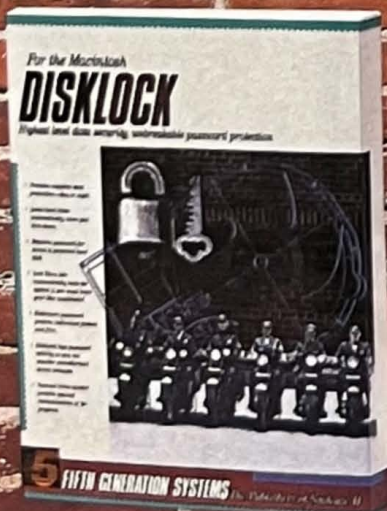
State-of-the-art data encryption adds yet another layer of security. Without the proper password, your confidential files appear to contain nothing but gobbledygook!

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DiskLock lets you give each user password access to *just the files you choose* (word processing files for your secretary, accounting files for your bookkeeper, etc.). The *master* password gives you access to all files and folders.

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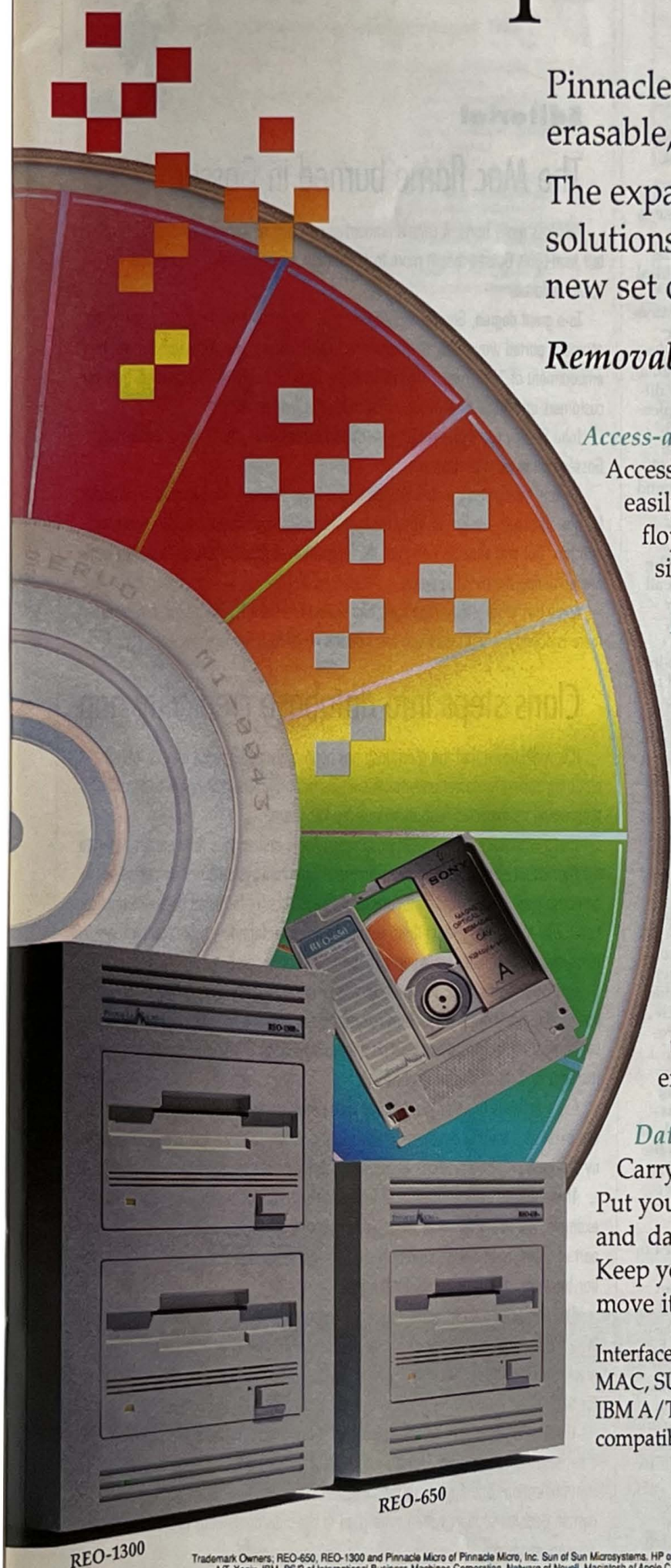
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Mac Soapbox VERNON KEENAN

X Window — Are we going to buy it?

All of the major Unix workstation and software vendors are asking the computing public to buy into a "new" idea: the X Window System. X Window, as it's more commonly known, is a graphical user interface that was developed by a consortium of commercial and academic developers led by the Massachusetts Institute of Technology in Cambridge. X Window gives networked Unix users a way to access graphical applications from a variety of workstations and terminals. X Window is to Unix what Windows is to DOS: a way to do a graphical user interface that is layered upon a historically character-based operating system.

Can Unix challenge Mac?

Well, folks, it looks like the proponents of X Window are using our favorite computer to seduce the CEOs of the world's corporations into the delusion that a Unix network replete with X Window terminals is just as good as a battery of Macintosh workstations. When a big company like Digital Equip-

ment Corp. wants to sell something to corporate America, it's going to target something that top managers are going to identify with.

It's an impending tragedy, and we need to do something about it. It's time to say the emperor has no clothes!

This won't be an easy thing to expose. After all, X Window, with its bit-mapped screen and three-button mouse, has all the essential window dressing. Also, there are plenty of nifty demo programs that make X Window look rather appealing. There are lots of uninformed decision makers looking at advertisements and marketing presentations about X Window and saying to themselves, "Gee, that looks just like a Macintosh!"

I don't want to make every X Window application look bad. Some do provide a valuable function, and X Window supports an important new networking standard. I suppose those of us who will have to access Unix networks to get our work done should be glad that there will be a semblance

of standards and that we won't have to endure an eternity of command-line mnemonics, but we MacWEEK readers know another graphical user interface that already gets the job done.

The horrid truth is that those nifty demo programs mask a user interface hell for those poor souls who will be relegated

the sorry chore of using an X Window terminal as their "personal computer."

X Window is a standard that specifies nothing more than how to draw bits on a screen and read mouse input and keystrokes. The truly useful functions of a graphical user interface, such as how a mouse behaves during a menu item selection, are left up to another layer of software. The problem for X Window application users is that most of their programs require different "mouse strokes" to complete similar functions. This is significantly different from Macintosh applications in which, for example, the Print command is always found under the File menu.

Centralized computing.

Besides the insidious nature of bit maps flying across the network all the time, the host computer (or "client" machine) fully controls what is happening on the user's screen. Think about that ... under X Window a request is queued to another CPU to do all your processing. You have to wait for a response, and a lot of valuable network bandwidth is used to do it! It is another version of time sharing, a mode of centralized computing that is generally viewed as being on the decline because of the proliferation of powerful personal computers.

Since X Window sucks compute cycles off of the network, as opposed to letting the personal computer handle the user interface chores, many Unix and VMS compute servers are needed to meet user demands. Besides supplying centralized CPU cycles, a much higher degree of control is introduced; all of a user's "personal" files are stored on a central file server. This mode of computing moves all the funding, and thus corporate power, into the hands of the central MIS group. This is the future that big computer vendors such as DEC and Sun Microsystems Inc. are counting on.

Up with independence! I'm not buying this stuff, and I hope you aren't either. Let's try to get more cooperation between host and personal computers. I support X Window as a good standard for centralized computers to work over a network. We need good applications like MacX from Apple and eXodus from White Pine Software to access those centralized clients, but let's focus development efforts on how to get DOS, OS/2 and Macintosh applications to use big computers as valuable information resources, not controllers of what happens on our screens. □

Vernon Keenan, a longtime contributing editor for MacWEEK, is an industry consultant.



Editorial

The Mac flame burned in Gassée

This loss really hurts. A certain amount of purging and self-examination is healthy, but Jean-Louis Gassée meant more to Apple than can be directly measured — or easily replaced.

To a great degree, Gassée was Apple's soul. Since the last great purge, when the company parted ways with its charismatic founder, Steve Jobs, Gassée has been the embodiment of "Mac-ness." He has been an inspirational force that defined, both for customers and Apple employees, what made the Mac different.

John Sculley could give a thousand speeches describing the Mac advantage. All Gassée had to do was show up.

Beyond his symbolic value, Gassée was a sharp strategist and motivational leader. He has absorbed criticism recently for Apple's sluggishness in providing low-cost Macintoshes. But that shouldn't obscure the long string of product successes he has engineered during the past four years.

Apple has other strong managers and skilled technocrats. Right now, however, there is nobody in sight who can carry on the Macintosh flame so well. □

Claris steps into database credibility gap

It is well-known that the Macintosh has been a disappointment as a database platform, selling far fewer units for this mainstream personal computer application than would be expected from its overall market share.

That's why there is a credibility gap when Apple and various third parties promote the Mac as an ideal front end for corporate information systems — by definition database applications. If corporations won't buy Macs for localized database applications, why should we expect them to turn to Macs for infinitely more complex systems involving mainframes, minis and distributed networks?

Last week Claris Corp. sought to fill the credibility gap by articulating a strategy positioning many of its products as information-management tools. The occasion was the company's technology-acquisition announcement of a SQL query tool, but the message had much deeper implications.

Claris believes the Mac has faltered as a database-transaction engine, but that it can excel as a tool for database analysis and decision support. Therefore, the company will market future products for browsing through and manipulating corporate data.

These will be distinct from its offerings for the traditional database market. For example, the query tool that Claris will eventually release as a product will not be part of Claris' market-leading database, FileMaker, but a stand-alone module for ad hoc browsing through remote databases.

The company didn't say so, but it may pursue a similar strategy with the code for Wingz that it recently purchased from Informix. Don't look for a comprehensive graphical spreadsheet. Instead, expect individual modules with specific functionality for data-driven graphics, user scripting and stripped-down spreadsheet analysis.

Like ad hoc database browsing, each of these capabilities is a useful tool in a decision-support system. Using System 7.0 capabilities for interapplication communications and AppleScript, MIS departments will be able to put together custom decision-support systems matched to the individual needs of their corporate data environments.

So far, this is all talk based on unannounced products and undelivered system tools. Still, by articulating an information-management strategy, Claris is showing how a credibility gap can be turned into a Macintosh advantage. □



GORDON STUBBS

Letters

But 16,777,216 colors won't fit on your screen

I read the Year in Review Special Report (MacWEEK, Jan. 9) with interest. I'm glad that the Macintosh industry has finally grown secure enough to be able to poke fun at itself.

I am an avid reader of Harper's Magazine and liked the MacWEEK index feature; however, I hope that Harper's does better fact-checking than you did, for I found that the Index perpetuates one of the more outrageously untrue claims in computer graphics:

"Maximum number of colors that can be displayed simultaneously on a Macintosh screen using ... a 24-bit color board: 16,777,216."

For a Mac screen to display 16,777,216 colors simultaneously, the screen itself would have to be 16,777,216 pixels — which translates to 4,096 by 4,096 pixels — and the frame buffer driving the display would have to be populated with 64 Mbytes of memory!

Clay Gordon
director of product development
Belser Knowledge Services
New York, N.Y.

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- ☐ 04. Graphic Arts
- ☐ 05. Communications: Publishing, Advertising, Public Relations, Promotion
- ☐ 06. Government: Federal
- ☐ 07. Government: Non-Federal
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- ☐ 09. Education
- ☐ 10. Finance: Banking, Accounting, Insurance, Real Estate
- ☐ 11. Health, Medical, Legal

- ☐ 12. Retail, Wholesale, Distribution
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4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?

- ☐ Yes ☐ No
(Write in accurate quantity for all that apply)

	Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
Macintosh IIcx/Macintosh IIx	1	
Macintosh IIfx	2	
Macintosh II	3	
Macintosh SE/30	4	
Macintosh SE	5	
Macintosh Portable	6	
Macintosh Plus	7	
Macintosh (Other)	8	
IBM/Compatible Micro	9	
Workstation (e.g. Apollo, Sun)	10	

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):

- ☐ A. Retailer: sold per year _____ (specify quantity)
- ☐ B. Reseller: resold per year _____ (specify quantity)
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- ☐ D. Not Applicable

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Optional: Enter home address below ONLY IF YOUR COMPANY WILL NOT ACCEPT DELIVERY. (Company information is still required.)

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6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):

- ☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?

- ☐ Yes (If yes, please check all that apply) ☐ No

Computers

- ☐ 01. Macintoshes
- ☐ 02. Workstations
- ☐ 03. Minis, Mainframes

Connectivity

- ☐ 10. Local Area Networks
- ☐ 11. Modems
- ☐ 12. Micro/Mini/Mainframe Links
- ☐ 13. Communications Software

Peripheral Equipment

- ☐ 20. Laser Printers
- ☐ 21. Color Printers
- ☐ 22. Color Monitors
- ☐ 23. Hard Disks
- ☐ 24. Backup Systems
- ☐ 25. Plotter, Charting Devices
- ☐ 26. Scanners

Add-in Boards

- ☐ 40. Memory Boards
- ☐ 41. Graphic Boards
- ☐ 42. MS DOS Boards
- ☐ 43. Ethernet Boards

Software

- ☐ 50. CAD/CAM
- ☐ 51. Graphics
- ☐ 52. Desktop Publishing
- ☐ 53. Desktop Presentation
- ☐ 54. Database
- ☐ 55. Programming
- ☐ 56. Accounting, Payroll
- ☐ 57. Spreadsheets
- ☐ 58. Music
- ☐ 59. Project Management
- ☐ 60. Word Processing
- ☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?

- ☐ 01. 500 +
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):

- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate via modem
- ☐ 05. Voice/Data
- ☐ 09. Other (please specify) _____

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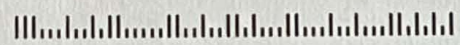
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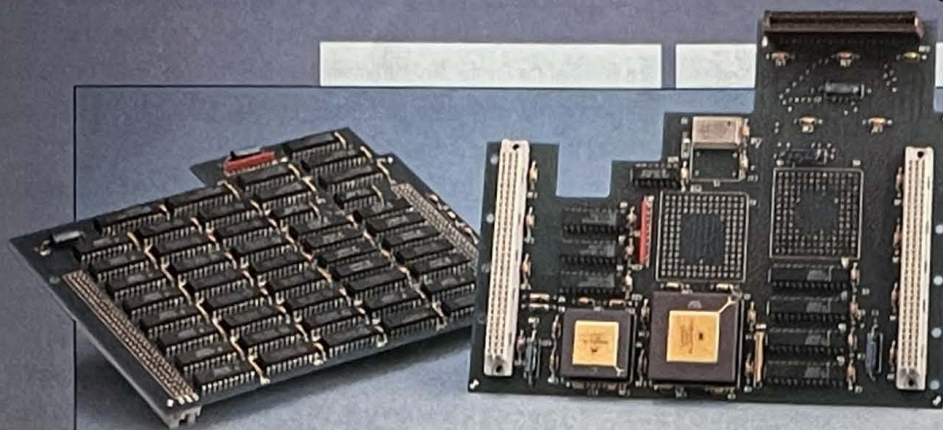
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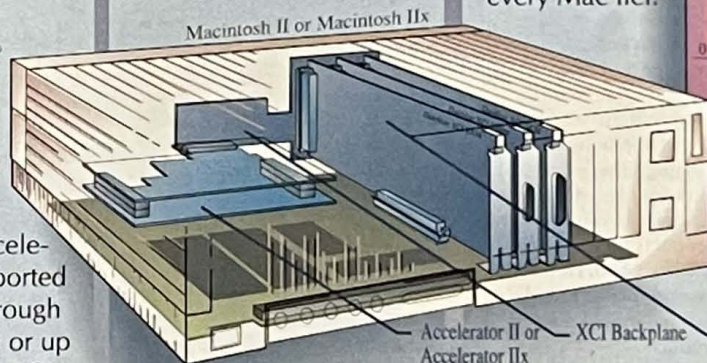
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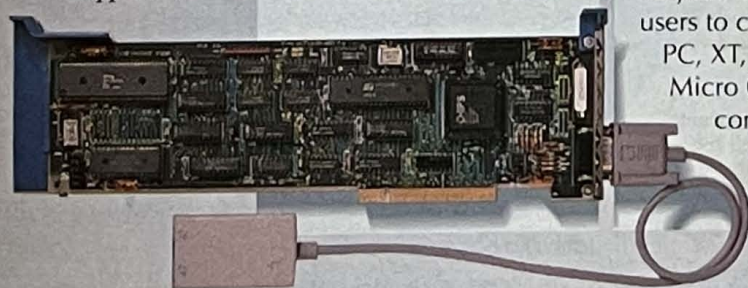
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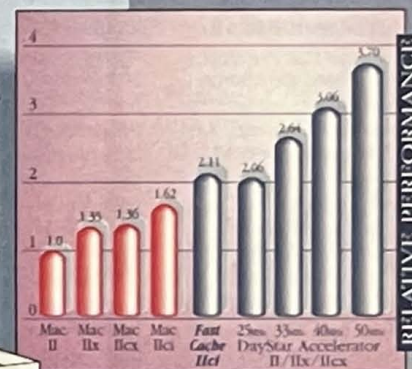
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Why Mac managers beta test

Corporate users seek early input on final features

By Emily Kay

When Gene Ledbetter began beta testing Mail 2.0, an electronic-mail package from Microsoft Corp. of Redmond, Wash., he was looking for specific improvements over his existing mail system.

"We wanted a system in which an individual only had to be a member of one mail server, but could communicate with E-mail across a local- or wide-area network to other locations," said Ledbetter, engineering section head of Procter & Gamble Co. of Cincinnati. "We also needed to have an improvement in speed."

Mail 2.0 provided both enhancements, at least in part, because Ledbetter aggressively voiced his views on what he needed in a final product.

"In Mail 2.0, there were some specific improvements we needed in our business environment," Ledbetter said. "By being a beta site, we were able to demonstrate that this improved product would meet that need as well as influence Microsoft in what was really important to us."

Worth the fuss. Professionals agree to become beta testers largely because they expect future products will include features and functions critical to achieving their business goals.

"We beta test a lot of things, mainly because we want to stay in the forefront of technology and have the opportunity to change things before they hit the streets," said C.L. Jeff Jeffers, network services director for Boston College in

Chestnut Hill, Mass. "What we're really looking for when we beta test a product is to tell [vendors] what's right and what's wrong with their products and to get our agenda into the product cycle."

As a beta tester, Jeffers virtually ensures that his department will meet its three-year strategic goals. "If we're in at the beginning of a product's life cycle, we can guarantee [our plan] will come true," he said. "As a beta site, we can influence the direction of the equipment and the manufacturer."

Time-intensive. While the beta process does afford participating organizations many advantages, there are drawbacks, the major one being the time involved.

"There are only so many hours in a day," said Pat Thompson, vice president of the Apple Professional Exchange (APX). "In testing A.M.E. (Access Managed Environment, a security program from Casady & Greene), we spent about 20 to 30 hours in testing. Some I did at home, before and after hours. It's impossible during the day."

Some products require less testing time than others, said Mike Bailey, president of APX and a systems integrator for Lockheed Missiles and Space Co. of Sunnyvale, Calif.

"We've beta tested some for 15 minutes and gotten enough feedback to correct most of the problems," Bailey said. "A network product is more intensive, and you're looking at a minimum of 30 hours total testing time."

Those hours are likely to be spread over weeks, because testers might use products for an hour a day or three to four hours a week. That's one reason, Bailey noted, that organizations should not test too many products.

Many organizations build beta

testing into their computer administrators' job descriptions.

"It's factored into my daily work," Jeffers said. "Once the legal papers are signed, the vendor usually installs it. We have to read documentation and understand how to use the product, and someone has to go out there and make sure it's used daily."

Writing up problem reports and placing long-distance calls to developers require a commitment of time and energy that Boston College is willing to make to assure its products work, Jeffers added.

Crashes and burns. Another potential pitfall of the beta-testing process is the risk an organization takes each time it puts something new and unknown on a network, especially within a multiplatform environment.

That's why Infotron Systems Corp. operates betas on test networks — products can run full tilt without disrupting users, said Cris Maloney, head of the Microcomputer Technology Group for the Cherry Hill, N.J.-based networking supplier.

MIS managers also must spell out to users in the beta process that the products they're testing are indeed test products.

"You have to state clearly that it's a beta," said Chris Gladwin, product evaluation specialist with Martin Marietta Corp.'s computing standards organization in Chantilly, Va. "If you put a beta into users' hands and it crashes, they may not understand what beta means."

Knowing when to join.

Products go through different test phases before being released for sale to the general public. Most organizations prefer to do beta testing rather than alpha testing. The first phase, which developers often do internally, can involve system crashes and other unpleasanties, Jeffers said.

"You can get bloodied in the alpha world because not all the software is there, not all the hardware is guaranteed to work, and you can bring a whole network down," Jeffers said.

Martin Marietta will enter on the ground floor for significant new products like Novell Inc.'s NetWare 2.15. "To us, that was more than an upgrade; it was a whole new level of functionality," Gladwin said.

"We wanted to be involved at the pre-alpha stage to be able to have input to what the product did."

"If it's a maintenance upgrade, which means fixing bugs, and there are no real design issues, the beta stage is fine," he said. "But if it's a significant new release and it's strategically important to us, we might want to be involved earlier than beta and have more influence." □

One-minute MANAGER

RIT seminar to focus on digital photography and the Mac

Rochester, N.Y. — The Rochester Institute of Technology's Technical and Education Center of the Graphic Arts will present Electronic Photography and the Macintosh Computer, a seminar on digital photography, May 16-18. RIT is among the pioneers of digital techniques for professional photography.

Associate Professor Douglas Ford Rea of RIT's department of applied photography will lead participants through demonstrations and experiments in areas such as normal and high-band still-video photography, transferring slides to video, digitizing electronic photos on the Mac and photo retouching.

"We take three days non-stop," Rea said. "I give short lectures, and then it's hands-on." Seminar participants "come with a lot of curiosity," he said. "They are looking very anxiously to see what state the technology is in today and how it will fit into their work environment." According to Rea, participants will get a chance to try out some "new, hard-to-get equipment" from major manufacturers, putting them on the cutting edge of the growing electronic photography field. "I think we're going to see a slow emergence of this technology between now and 1992," he said.

The three-day program costs \$695, and participants are eligible for continuing education credits.

For more information, call Val Johnson at (716) 475-2736 or write to the Rochester Institute of Technology, Technical and Education Center of the Graphic Arts, Frank E. Gannett Memorial Building, P.O. Box 9887, Rochester, N.Y. 14623-0887.

Logical Operations study links training to productivity

Rochester, N.Y. — According to a study of IBM PC users commissioned by computer consulting and training company Logical Operations and carried out by Rudd Associates, early training on software really does improve productivity.

"People make a lot of educated guesses based on anecdotal information," said Harvey Feldstein, vice president for sales and marketing at Logical Operations here and the initiator of the study. "We wanted some real hard research."

Rudd Associates, based here, held focus groups with Lotus 1-2-3 users who had been trained by Logical Operations and had the participants fill out written questionnaires. According to the company, 73 percent of the respondents said that training had made them more productive on the job.

"I can't imagine that this wouldn't apply to the Mac," Feldstein said.

Logical Operations is heavily involved with Mac training, providing both classroom instruction at its own facility and a program for in-house trainers that includes courseware, instructional aids, manuals and "trainer training."

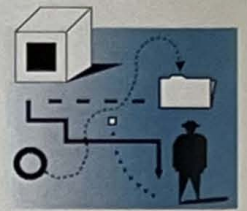
Logical Operations is located at 595 Blossom Road, Rochester, N.Y. 14610; (716) 482-7700; (800) 456-4677.

AppleTalk networking seminar hits the road

San Jose, Calif. — Winehouse Computer Co. will present a series of two-day seminars in February and March on building and managing AppleTalk networks.

The program, which will be held in several cities, will cover some aspects of network planning and setup, and take a look at Ethernet cabling and products such as Farallon Computing Inc.'s PhoneNet and Cayman Systems Inc.'s GatorBox. Kurt VanderSluis, president of the Seattle-based network training and consulting firm The Network Group, will teach the class, which will cost \$495 per person, or \$475 each for two or more people from one company.

Winehouse Computer Co. is located at 1735 N. First St., Suite 303, San Jose, Calif. 95112; (408) 452-8788.



C.L. Jeff Jeffers, director of network services, sits among the wires needed to help set up Boston College's new Instruction Research & Development Lab, a separate facility that will be used for beta testing new software and hardware products.



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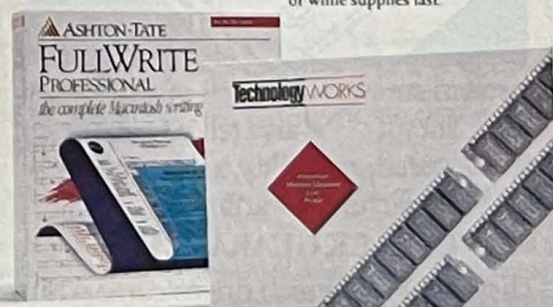
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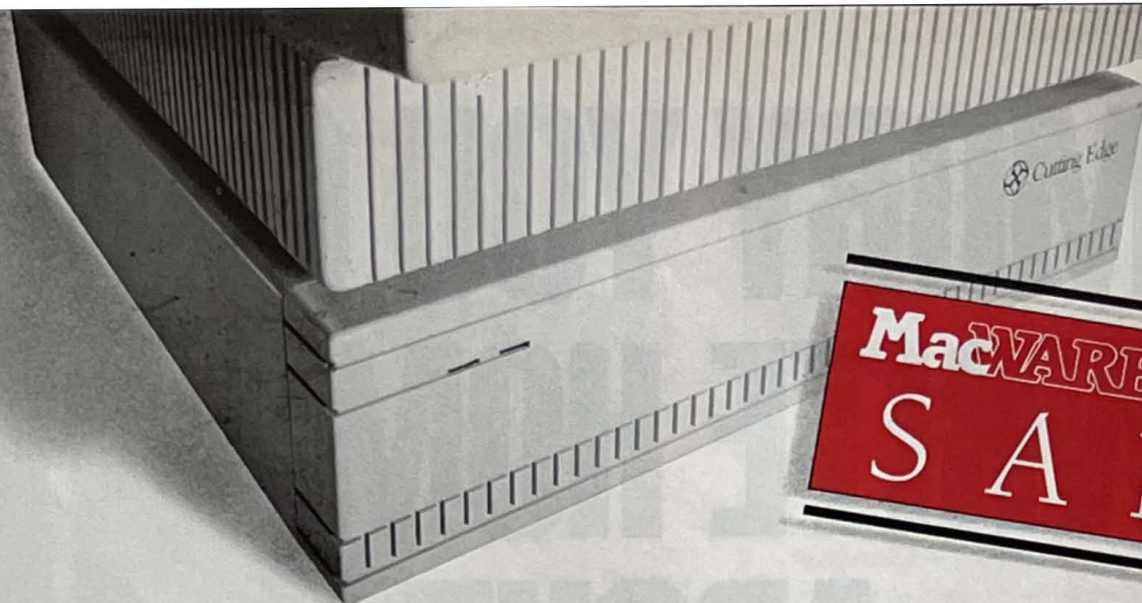
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GATEWAYS

MacWEEK'S NETWORKING REPORT

13 February 1990

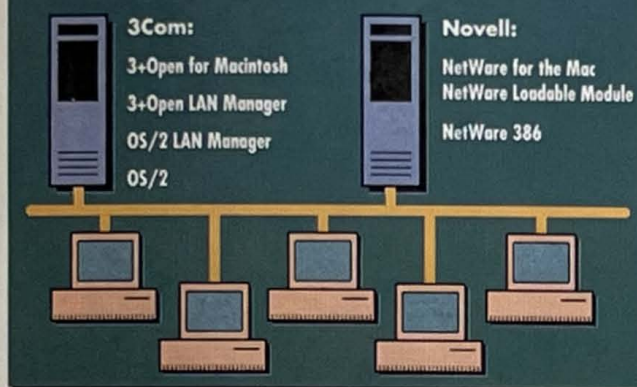


The real world of networking: Issues and answers. See Page 26



MIT leads the way to on-line multimedia. See Page 38

3Com's and Novell's future Mac connections



Two IBM PC LAN leaders battle it out

By Emily Kay

3Com and Novell are going after the Mac market in different ways

Little more than a year ago, Novell Inc. seemed to have fallen behind in the Macintosh leg of its race with 3Com Corp. for dominance in the LAN market.

In December 1988, 3Com had an installed base of Mac-to-DOS connectivity products while Novell's NetWare 2.15, the first version of the product to have a NetWare for Macintosh option, was still unreleased. Today, not only is NetWare 2.15's Macintosh support more modern than 3Com's aging 3+Share (formerly 3+Mac), but both companies are preparing versions that promise more-sophisticated Mac connections.

The Macintosh represents a large, growing opportunity for 3Com and Novell. Some 70 percent of all Macs are networked, compared with about 20 percent of IBM PCs, according to Dataquest Inc., a market research company in San Jose, Calif. Dataquest projects that 85 percent of all Macs will be linked to LANs by 1993.

Novell and 3Com are going after the Mac market in different ways, but both are targeting PC environments that have to add Macs. Novell's and 3Com's existing products require network administrators to understand DOS or OS/2 just to set up the server, according to Robert Wohnoutka, Apple's product marketing manager for AppleTalk. That requirement has limited the gains Novell has made against sales of Apple's Mac-based AppleShare. Wohnoutka added that sales of 3+Share are greater because it has been around longer.

Another difference that makes Novell and 3Com products less attractive to Mac sites are their media requirements. With AppleShare, Mac clients can hook into the server via LocalTalk. Novell and 3Com servers run on Ethernet and require adapter cards for each Mac or a bridge between networks.

The \$799 AppleShare (for 50 users) is also cheaper per user. 3+Share costs \$2,995 for an unlimited number of users, while the 3+Open for Macintosh option costs only \$200 per server but requires 3+Open LAN Manager Entry System II (for 10 users) or Advanced System (for an unlimited number of users), which cost \$1,495 and \$3,395, respectively. The upcoming 3+Open LAN Manager 2.0 will cost \$5,995. NetWare 2.15 with the Macintosh option ranges from \$695 (for four users) to \$4,995 (for 100 users with fault toler-

See LAN leaders, next page

File server market heats up

Six companies compete in distributed file sharing segment

By John Battelle

One year ago, the only company offering distributed file serving — which allows file sharing without a dedicated computer — was TOPS. Now, five additional companies, from inconspicuous start-ups to Apple itself, are vying for a slice of this particular networking pie.

Recent entrants to the market include Personal Server Network from Information Presentation Technologies Inc., Macintosh FileShare from Apple, EasyShare from Shirt-Pocket Software, allShare from Everyware Inc. and DataClub from International Business Software Inc.

Each company has taken pains to carve a niche for its product while maintaining close links to Apple's networking lingua franca, AFP (AppleTalk Filing Protocol).

The first new entrant came last June in IPT's Personal Server Network. Initially pitched as an AFP-compliant TOPS alternative — TOPS 3.0 is compatible with AFP but does not support an AFP interface — IPT is now stressing Personal Server Network's close ties to Unix through uShare, IPT's AFP file server for the MIPS Computer Systems Inc.'s Unix-based computer. Pricing for Personal Server Network starts at \$149 per user.

Next into the fray was Apple, which

announced in December 1989 it would ship Mac FileShare, a background version of AppleShare, with System 7.0 at no extra cost (see MacWEEK, Jan. 9).

Last month, TOPS released Version 3.0 of its namesake software for Macintoshes, Sun workstations and IBM PCs and compatibles.

See File serving, next page



Nick Powell, president of International Business Software, and Carl Linhardt, director of marketing, represent one of five new companies competing in the serverless network arena.

DATA PACKET

A roundup of networking product news

Here's what's new since the last Gateways, which appeared in MacWEEK Nov. 14, 1989.

Nov. 11, 1989: Shiva Corp. shipped the \$99 DOS Connect, allowing IBM PCs to dial into AppleTalk networks equipped with Shiva hardware. Shiva Corp.: (617) 864-8500.

Nov. 14, 1989: CE Software Inc. shipped QuickMail PC for DOS, priced at \$379.95 for 10 users. Also, the company announced QM-MHS, a \$199.95-per-server Message Handling Service gateway to ship this month. CE Software Inc.: (515) 224-1995.

Dec. 11, 1989: Apple shipped \$695 CL/1 Developer's Toolkit. Apple announced \$5,000 CL/1 server for VAX/VMS and said AppleTalk for VMS 2.1 will ship in first quarter of 1990 at \$5,000 for a commercial license, \$1,000 for in-house development and free for current owners.

Dec. 12, 1989: Air Land Systems shipped \$1,395 AMIE II (Apple Mac Interface Emulator), software and hardware providing UTS and STV terminal emulation for Sperry hosts. Air Land Systems: (703) 573-1100.

Dec. 12, 1989: Information Presentation Technologies Inc. shipped its Personal Server Network distributed file server for \$49.95 with original TOPS disk and \$999 for 10 users. Information Presentation Technologies Inc.: (818) 347-7791.

Dec. 13, 1989: Alisa Systems Inc. shipped MailMate/QM, QuickMail gateways to Digital Equipment Corp.'s VMS Mail and All-In-1, at \$950 for 10 users, \$9,540 for unlimited use. Alisa Systems Inc.: (818) 792-9474.

Dec. 15, 1989: Engage Communication Inc. shipped \$1,895 SyncRouter, an AppleTalk half-bridge for high-speed synchronous data links. Engage Communication: (415) 358-0264.

Dec. 18, 1989: Apple announced Mac FileShare, a distributed AFP file serving technology will be included in System 7.0.

Dec. 22, 1989: Touch Communications Inc. announced an X.400 gateway for QuickMail. Price not announced. Touch Communications Inc.: (408) 374-2500.

Jan. 1, 1990: TOPS shipped TOPS Network Bundles at \$299 for the Mac and \$259 for the IBM PC, which include TOPS 3.0, InBox 3.0 and TOPSpool; announced \$995 InBox 3.0 Plus to be available this month. TOPS: (415) 769-9669.

Jan. 22, 1990: CE Software announced QuickMail 2.2, including name serving and aliasing, to ship in March at \$499.99 for 10 users.

Jan. 26, 1990: Integrated Solutions Inc. shipped Central System Manager 2, which allows VAX administration from a Mac; \$900 to \$40,000. Integrated Solutions Inc.: (215) 337-2282.

LAN leaders

From previous page

ance), and the forthcoming Macintosh NetWare Loadable Module is a \$1,995 add-on to the \$7,995 NetWare 386 3.1.

Managers must install 3+Share from a DOS machine but can then administer it from any Mac on the network, said Andy Gottlieb, Macintosh product manager in 3Com's Distributed Systems Division. However, the new 3+Open won't support Mac-based management, he said. A Novell network cannot be administered from a Macintosh.

Both NetWare and 3+Share can take hours or days to install. Users of NetWare 386 3.0 report that it is far easier to install than previous versions, however.

Novell and 3Com have leapfrogged each other over the years and continue to do so in the Macintosh market, noted Bob Clarke, vice president of product evaluation at Infonetics Inc., a Santa Clara-based market research company. "Novell may be slightly ahead under NetWare 2.15, but 3+Open will probably be a superior product because it's in a later development cycle and it addresses

more advanced issues than 2.15," he said. 3+Open LAN Manager 2.0 is expected in July. Novell's NetWare 386 3.1 has been delayed until the third quarter.

Observers disputed the technical virtues of each vendor's product line, but no one challenged the marketing mastery that Novell has enjoyed over 3Com. Novell jumped into the Macintosh fray with its splashy announcement of NetWare 2.15, which supported AFP (AppleTalk Filing Protocol). "3Com got a black eye because it didn't support AFP for a long time," said

Yogen Dalal, vice president of product development for Claris Corp. of Santa Clara, Calif.

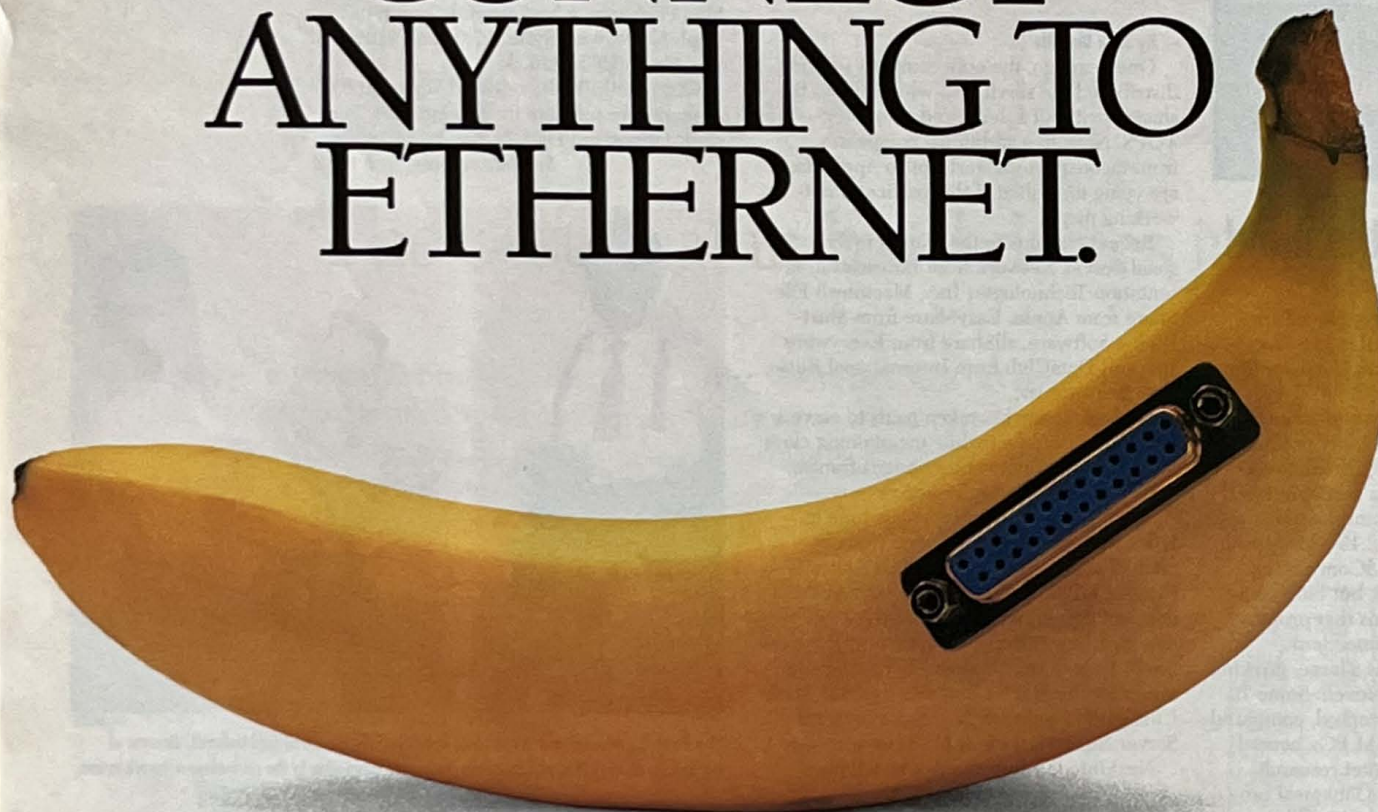
While the perceived AFP advantage may be evaporating, Novell remains the marketing whiz. "3Com has done a lousy job of marketing and making [its Mac support] known, but we've been in this market for five years — longer than anyone but Apple," 3Com's Gottlieb said. "For the past few years, Novell has done marketing, and we didn't. We realize we can't get away with that."

Neither Novell nor 3Com has run away with the Macintosh market, and they're not likely to win many sales in Mac-only sites. But as computing environments become increasingly heterogeneous, industry experts expect the two IBM PC LAN leaders to make their products more and more acceptable to Macintosh network managers and users.

Novell Inc. is located at 122 E. 1700 South, Provo, Utah 84606; (801) 379-5900.

3Com Corp. is at 3165 Kifer Road, Santa Clara, Calif. 95052-8145; (408) 562-6400. □

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adaptec

File serving

From previous page

With built-in electronic-mail and print services, TOPS defines the high end of serverless file sharing, in both functionality and, at \$299 per node, price.

The three lesser-known entrants are striving to differentiate themselves not from industry leader TOPS but from Apple's FileShare. All three are AFP compatible.

ShirtPocket is positioning EasyShare as an inexpensive server without the overhead of administration. "We are trying to target a smaller user community," said Jay Eaglstun, vice president of marketing for ShirtPocket. EasyShare costs \$99.95 for a 10-user server and is shipping now. Although he made no promises, Eaglstun said the company is looking into an IBM PC version of the product.

International Business Software developed DataClub not as a stand-alone server but as a platform for a soon-to-be-announced network database. The DataClub server presents all shared disk space on the network as one volume on the desktop. Three products make up the DataClub line: the \$249-per-node Unified File Server; a \$499 IBM PC gateway; and the \$249 DataClub Security, which adds AppleShare-like administration.

"We bring location transparency to the desktop," said Nick Powell, president of International Business Software. The software supports multiple zones and as many users as the hardware can handle, Powell said. DataClub will ship in April.

Everyware's allShare, at \$199 per zone, is targeted at users most concerned with price and convenience. The program will run under System 6.0.2 or later with 1 Mbyte of RAM. (System 7.0, and therefore Mac FileShare, requires at least 2 Mbytes of RAM.)

Although sorting through the particulars of the new file server options is time-consuming, the explosion of choices could mean a better fit for your site.

TOPS is at 950 Marina Village Parkway, Alameda, Calif. 94501; (415) 769-9669.

Everyware Inc. is located at 2155 Burnhamthorpe Road W., Suite 810, Mississauga, Ontario, L5L 5P4 Canada; (416) 569-3568.

Information Presentation Technologies Inc. is at 23801 Calabasas Road, Suite 2008, Calabasas, Calif. 91302; (818) 347-7791.

International Business Software Inc. is located at 1230 Oakmead Parkway, Suite 310, Sunnyvale, Calif. 94088; (408) 720-0170.

ShirtPocket Software can be reached at P.O. Box 40666, Mesa, Ariz. 85274-0666; (602) 966-7667. □

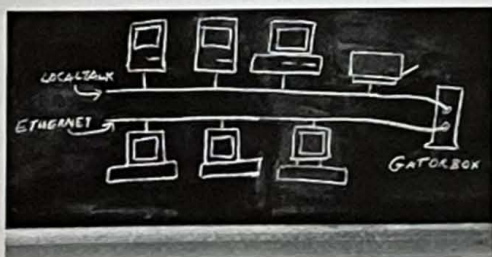
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Supports AppleShare for VMS and UNIX	■	■	■
Supports remote login to UNIX from Macs	■	■	■
Compatible with GatorMail	■	■	■
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Networking in an imperfect world

By John Battelle

MacWEEK examines how network managers deal with less-than-ideal situations.

Put aside your work for a moment and imagine a business that needs a network but has had no previous contact with computers. An unspoiled site, as anthropologists would call it, where there are no pre-existing hardware or software standards to work around, no installed user base to support, and a boundless budget. *Prima materiae*: you, a hundred or so nodes and plenty of time to design a system that fits your work place perfectly.

Now get back to work.

In real life, taking the network out of the user's way — to use Apple's optimistic catch phrase — is not as easy as any of us would like it to be. An informal survey of managers responsible for major Macintosh installations around the country has produced a list of numerous concerns that are obstacles in the quest for networking nirvana.

"As a rule, communications products — third-party as well as Apple's — will have some incompatibility between them," said Bill Herbert, communications specialist at Mobil Oil Exploration in Dallas. "Almost every day we hook some device up to the network that has a perturbation with another device on the same net."

Managers said they need more resources to deal with problems such as these — more tools, more support, more links and more elegant solutions to the sticky computing problems of increasingly complex networks.

Who ya gonna call? IBM Corp. or Digital Equipment Corp., if you have the money. Training and support are in short supply in the Macintosh world. While IBM and DEC have both announced comprehensive, although expensive, multivendor support systems that embrace the Mac, Apple's stated support policy is to help users help themselves. That's fine when you're talking about a magical plug-and-play all-Mac network, but not so good when your wide-area link to the mainframe in Seattle breaks down during a backup at 3 a.m.

"I don't think [Apple] has quite got its hands on the importance" of supporting the Mac in multivendor networks, said one network administrator of a major site in New York, who preferred anonymity. "Support, to my understanding, is not part of Apple's philosophy."

To its credit, Apple does offer a toll-free support number for most of its networking and communications products, although it is only open during business hours.

The right tools. "There are very few, if any, true network management tools for Mac networks," said Bill Cook, technical adviser at Pitney Bowes in Stamford, Conn.

Managers decried the scarcity of troubleshooting and network information-gathering products for AppleTalk networks (see "Where are the management tools?," Page 34). "Each program tells you only about the particular product that it was made for," said one university administrator, referring to the

software included with many third-party products. "Apple needs to define a set of standard variables, like SNMP (Simple Network Management Protocol, a TCP/IP protocol), that all the vendors can easily recognize." Others noted the dearth of good file security programs as a problem for their networks (see "Fighting the network security battle," Page 36).

Designing for growth. If everything is going well, a business usually grows. New offices are added; more employees are hired; and a lot more data, requiring intelligent distribution, is generated.

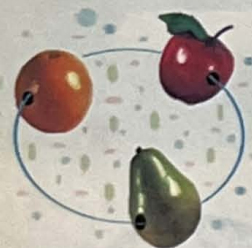
Designing for this growth while maintaining the present installation's integrity is critically important, according to the managers contacted. Concerns ranged from controlling ad hoc networking at the workgroup level to establishing wide-area links with geographically dispersed LANs (see "What's new in wide-area networks: DataKit II," Page 32). Confusion over the implementation of AppleTalk Phase 2 was also evident (see "Who's afraid of Phase 2," Page 30).

Many managers raised concerns over the lack of sophisticated, multivendor name serving in the AppleTalk environment. Name serving provides a centralized database of user information that multiple servers can access. AppleTalk provides no such service, although third parties reportedly are developing their own.

Mixed bag. Many managers contacted reported that they were frustrated when they tried to connect networks of mixed platforms (see "1990: Multivendor connectivity," this page). While vendors scramble to connect with each other, many promises, at least in spirit, have yet to be delivered.

There is still no way for Macs to directly connect to OS/2-based LAN Manager networks, and Unix on the Macintosh, via Apple's A/UX and products such as eXodus X
See Networks, Page 36

1990: MULTIVENDOR CONNECTIVITY



The introduction of the Macintosh SE/30, IIcx, IIci and Portable may have made 1989 the year of the CPU, but for those charged with integrating into the installed base, 1989 was the year Apple finally got serious about multivendor connectivity.

For network managers, Apple's four new CPUs take a back seat to the dozen or so interconnectivity products the company introduced last June. New, intelligent network interface boards communicate with Ethernet, token-ring and LocalTalk networks, and new software establishes links to mainframe databases and adds 3270 terminal emulation, TCP/IP and IBM's Systems Network Architecture (SNA) protocol access, and integrated X Window sessions.

The parade of new products kept up after Apple, Novell Inc., 3Com Corp., Banyan Systems Inc., Oracle Corp., Sybase Inc., Digital Equipment Corp. and just about every other networking vendor made important-sounding — if not always substantive — announcements regarding forthcoming Macintosh support last year.

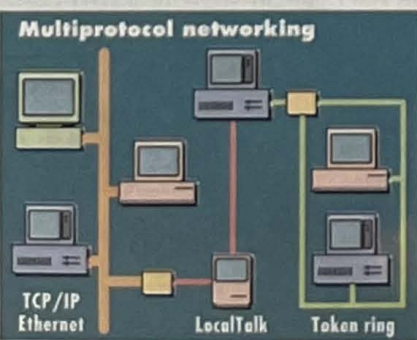
A survey of micro managers who are anticipating products from these heavy hitters illustrated that, while they were happy with the promises of 1989, they expect 1990 to be a year of delivery.

"I'm waiting for a standard solution," said David Hoisch, a member of the technical staff at Hughes Aircraft of El Segundo, Calif., who is responsible for a site with about 200 Macs and IBM PCs, a sprinkling of Sun workstations and other Unix machines, and 20 or so DEC VAXes.

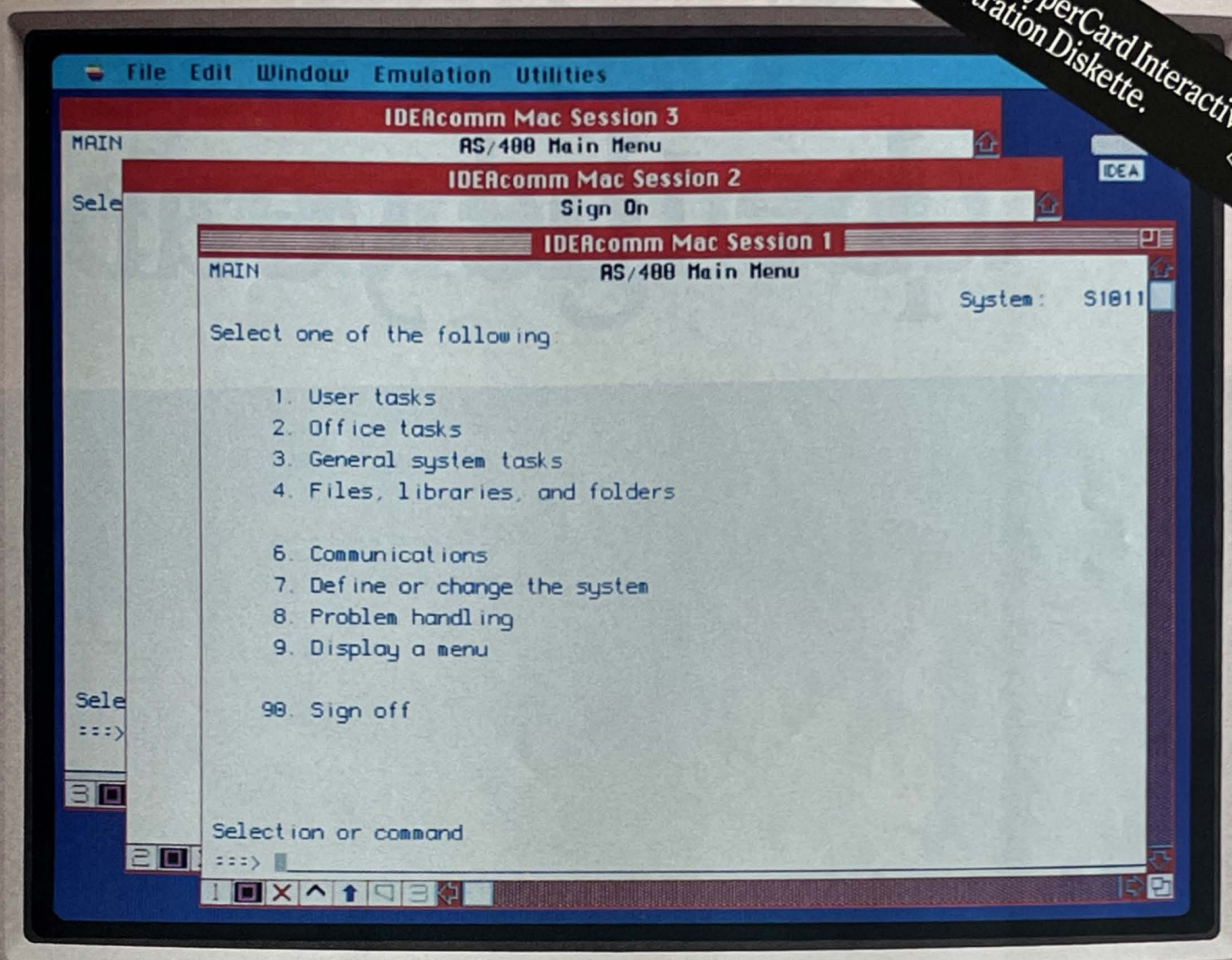
Hoisch said that his connectivity needs are being met by a patchwork of third-party products, but he is anticipating a standard to be set by forthcoming products from the Apple-DEC alliance in the next six months. "The market [for multivendor connectivity] is a thousand times better today than it was two years ago. We owe that to the third parties," he said. "But I want something that standardizes the whole arena so I don't have to track multiple vendor upgrades."

Hoisch's comment reflects a growing desire on the part of managers to consolidate their upgrade and support responsibilities through only one or two vendors. "We are using a lot of heterogeneous products, most of which are not from Apple," Hoisch said.

Other managers reported they are waiting for better support from Novell, Banyan and DEC before they expect their multivendor networks to be ideal. To these managers, 1990 will be the year that third-party connectivity products, for both the Macintosh and other platforms, will finally work together under one fluid enterprise-wide architecture. —
By John Battelle



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It's already happening. More and more companies are embracing the idea of workgroup computing. For good reasons, too. Like the ability to swap files, send electronic mail, share printers, and work together more effectively than ever.

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The complete workgroup electronic mail system. **INBOX PLUS**

Allows Mac and PC users to communicate conveniently, quickly and reliably. Full-featured, yet easy to install and use.

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T O P S

INBOX PLUS

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fact, used with other InBox Plus Message Centers, or UNIX Mail, MCI Mail, PROFS, VMS, and other systems, InBox Plus lets you send messages anywhere in the world.

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When you need connections.



WHO'S AFRAID OF PHASE 2?

Because Apple failed to predict the need for large, high-speed AppleTalk internetworks, its initial network protocol did not allow more than 254 nodes to be on a single AppleTalk network. This problem has not been an issue for LocalTalk-only networks because a number of LocalTalk routers are available that allow you to split a large network into smaller subnets. But since no AppleTalk-specific Ethernet

routers exist, this limitation has become a problem for those who want to attach more than 254 AppleTalk devices to a large Ethernet network.

Last year, Apple addressed this shortcoming with the release of the AppleTalk Phase 2 specification. Until then, solutions to the node limitation, although available, were not obvious to most network managers and required clever use of alternate protocols to implement.

Now that Phase 2 support is offered by most vendors of Macintosh networking products, Mac managers should begin determining if and when to convert to Phase 2. For single-zone, LocalTalk-only networks there are no advantages to a Phase 2 conversion at this time, so for a manager of one of those sites, the decision will be easy. But for sites with more than just Macs, the issue is more complex. To determine whether your network may benefit from a conversion, you should consider some of the following facts:

- TokenTalk requires Phase 2. If you are planning to link into a token-ring network, conversion is required.
- If you hope to connect more than 254 AppleTalk nodes to an Ethernet network, a Phase 2 conversion will be necessary.
- If you've installed software that relies on AppleTalk for VMS, such as AlisaShare from Alisa Systems Inc. of Pasadena, Calif., or PacerShare from Pacer Software Inc. of La Jolla, Calif., only Phase 1 can be used. Phase 2 support in AppleTalk for VMS 2.1 has been announced but is not yet available.

In determining whether you should consider a conversion in the future, you should be aware of these features and advantages of AppleTalk Phase 2:

- The limit to the number of nodes on a network is now more than 16 million — essentially unlimited for most purposes.
- Performance on heavily routed networks is better because routing information is distributed to each node. Routed packets are delivered faster, and broadcast traffic is reduced.
- Zones can be assigned arbitrarily and are not solely dependent on physical network segments. In one EtherTalk segment, for example, you could define a zone that contains a limited number of nodes to reduce the overall traffic on the network.

Since Apple's announcement last year, Phase 2 activity has been minimal. Tom Cromelin, product marketing manager at Novell Inc.'s office in Walnut Creek, Calif., said, "Most customers have not yet reached critical mass on Ethernet where upgrading becomes a requirement."

The issue keeping many large sites from Phase 2 conversion is the "lack of support for Phase 2 in AppleTalk for VMS," Cromelin said. "Since VMS sites are more apt to have reached the 254-node limit, they will have to wait for the release of Phase 2 support in AppleTalk for VMS." Furthermore, on the IBM side, "Not too many token-ring cards are shipping, and thus you don't see a lot of sites requiring a Phase 2 conversion," he said.

Conversion is not necessarily a difficult process, according to Celso Miao, a partner at NetStrategies, a network consulting firm in Toronto. His work recently involved a large site with LocalTalk-to-Ethernet connections via GatorBoxes from Cayman Systems Inc. of Cambridge, Mass. "We converted an 800-node network more than a month ago using Phase 2 support from Cayman without any problems whatsoever," he said.

In most instances, when Phase 2 is desirable or necessary, implementation will require coordination of all network administrators and time to plan carefully to reach a consensus on upgrade timing. Some vendors, including Apple and Novell, have published Phase 2 planning guides to aid in the process. Since Phase 2 upgrading affects the entire internetwork, you should know whether each of your network components supports Phase 2. If you have not received information regarding software and hardware upgrades from your network vendors, you should contact them in the near future.

— By Jonathan Osiki

Take This Simple Network Test.

1. Which Network Doesn't Tie Up A Valuable Macintosh As A File Server?

- ☐ AppleShare ☐ TOPS
☐ DaynaNET

Hint: AppleShare® requires a dedicated Macintosh® as a file server. DaynaNET™ runs on an inexpensive yet fast IBM® compatible 286 or 386 personal computer. Distributed networks such as TOPS® don't require a dedicated file server, but steal processing power from every Macintosh on the network.

2. Does A Real Network Need A Dedicated File Server Anyway?

- ☐ Yes ☐ No

Hint: A file server provides centralized storage and management of information and a basis for running multiuser applications. Dedicated the file server improves the network's performance, reliability, and security. Even small networks can benefit from a dedicated file server.

3. Which Network Operating System Is The Fastest?

- ☐ AppleShare
☐ DaynaNET
☐ TOPS

Hint: Both TOPS and AppleShare run on top of the Macintosh or MS-DOS® operating system. This slows them down. The DaynaNET operating system directly controls the file server, taking full advantage of all its speed and processing power.

4. Which Network Will You Never Outgrow?

- ☐ AppleShare ☐ DaynaNET ☐ TOPS

Hint: You soon outgrow a distributed network such as TOPS, because its performance deteriorates as you add users. Adding to an AppleShare network requires additional costly Macintosh file servers, so you soon outgrow your budget. DaynaNET's generous upgrade program lets your network grow as you grow in affordable stages.

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DaynaNET/8LE	8 users on LocalTalk and Ethernet	\$2195
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Introducing the Interfax 24/96



WHAT'S NEW IN WIDE-AREA NETWORKS: DATAKIT II

When considering AppleTalk wide-area network products, the first vendors that come to mind are probably Shiva Corp., Solana Electronics, Hayes Microcomputer Products Inc. and Infosphere Inc. However, when planning for large, multi-location, multiprotocol networks that include AppleTalk, managers should also consider the DataKit II VCS multiprotocol switch from

American Telephone & Telegraph Co.

Although the expense of this technology (in the tens of thousands of dollars) makes it inappropriate for smaller companies, large organizations such as Hertz Corp. of Oklahoma City, Okla., and McCaw Cellular of Kirkland, Wash., have employed DataKit II equipment to provide a common, wide-area communications backbone for their entire organizations. The advan-

tages of such an environment are that it:

- Creates a conduit for integration of enterprisewide electronic-mail and file sharing systems.
 - Allows for a high level of network security by creating multiple virtual AppleTalk subnetworks and by providing redundant routing, which creates alternate paths if one of the network nodes fails.
 - Allows for the creation of high-speed WANs by utilizing T1 links for up to 1.5-Mbps throughput on remote links, as well as linking DataKits with fiber optics, creating a 4-Mbps backbone.
- In addition to AppleTalk, the DataKit II VCS supports a variety of asynchronous and synchronous protocols, including TCP/IP and DECnet.

How to tie your Macs to your VAX without tying yourself to your Macs.

Why limit yourself?

Connecting your Macs to your VAX makes a lot of sense. You can get the economic benefits of centralized storage. You can share files. And you can relieve the VAX of a lot of jobs like file processing, word processing, graphics or spreadsheets.

For a lot of companies, though, that's where it ends. Why not get the full benefits of Mac-VAX communications?

Can you do this?

For example, your Macs could have access to VAX applications, extracting key data for integration into Mac applications.

And you could make VAX-based files and reports available to both Macs and VAX workstation users in their appropriate formats.

And both Mac and VAX users could access electronic mail.

Or use Mac-generated graphics in VAX applications.

And get greater productivity out of your total system while saving big on VAX spending.

As a leader in Macintosh connectivity, White Pine Software provides a number of popular products that take Mac-host productivity several notches higher than simple storage efficiency.



Talk to any X computer.

For example, there's our new eXodus package that turns the Macintosh into an X Window System workstation. Acting as a display server,

eXodus interacts with applications programs running on *any* host computer using the X protocol, e.g. DECwindows. And it's available in color, too.

Don't try this on any DEC terminal.

Then there's our Mac200 series of terminal emulators for DEC's VT200 series terminals. Far more powerful than any DEC terminal, you can replace your VT's with these products and get exceptional double duty from your Mac - as a computer one minute, and a super VAX terminal the next.

Full file flexibility.

For file storage, White Pine's VMacS lets you store and manage Macintosh files on VAX hard disks. Files can be transferred between the Macintosh and the VAX using White Pine's Mac series terminal emulators and other popular emulation products. MacWrite and Microsoft Word, as well as standard Macintosh text formats, can be con-

verted into VAX VMS text formats.

And to complete the picture there's Reggie, a package that lets you incorporate Mac-generated graphics into VAX-compatible applications, or output them to DEC printers.

A great system solution.

White Pine products are Communications Toolbox compatible and support all major networks. Moreover, you get free technical support. So why hesitate? For more information, write or call White Pine Software, 94 Rt. 101A, P.O. Box 1108, Amherst, NH 03031. (603) 886-9050.



Although many features of DataKit II can be obtained by integrating products from other vendors, the AT&T offering is an industrial-strength one-stop approach for multivendor WANs.

According to AT&T, using the DataKit II's proprietary high-speed, low-latency protocol provides superior performance compared with other network packet-switching technologies, such as X.25.

Richard Cates, manager of network and communications integration at Apple's office in San Jose, Calif., has been examining a DataKit II for the past few months. "We had it up in a few hours, after some minor changes in the configuration files provided with the DataKit," he said. "Although familiarity with Unix is a prerequisite for quick installation, Cates said he wants "to install the product at other Apple locations to demonstrate its benefits to systems integration customers."

Although each network node typically has a management console, using the Unix-based StarKeeper software enables administrators to monitor the internetwork from one station and provides a graphical map of the internetwork. According to a representative at AT&T's Bell Labs, "The DataKit's StarKeeper network management option is one of the most popular features of the unit."

The resulting internetwork also will allow Macintoshes to communicate with remote Unix-based file servers and electronic-mail systems. The DataKit package also includes an AppleTalk Filing Protocol (AFP) 2.0-compliant file server application that can be run on any Unix host on the network. "The AFP server is a solid product offering good performance," said Cates, who now uses a beta version of the product.

Although many of these features can be obtained by integrating products from other network solutions vendors, the AT&T offering is an industrial-strength one-stop approach for multivendor WANs. As an AT&T representative pointed out, "The product is intended mainly for large corporate networks, which require multiprotocol support yet can be managed centrally by corporate network support personnel." — By Jonathan Oski

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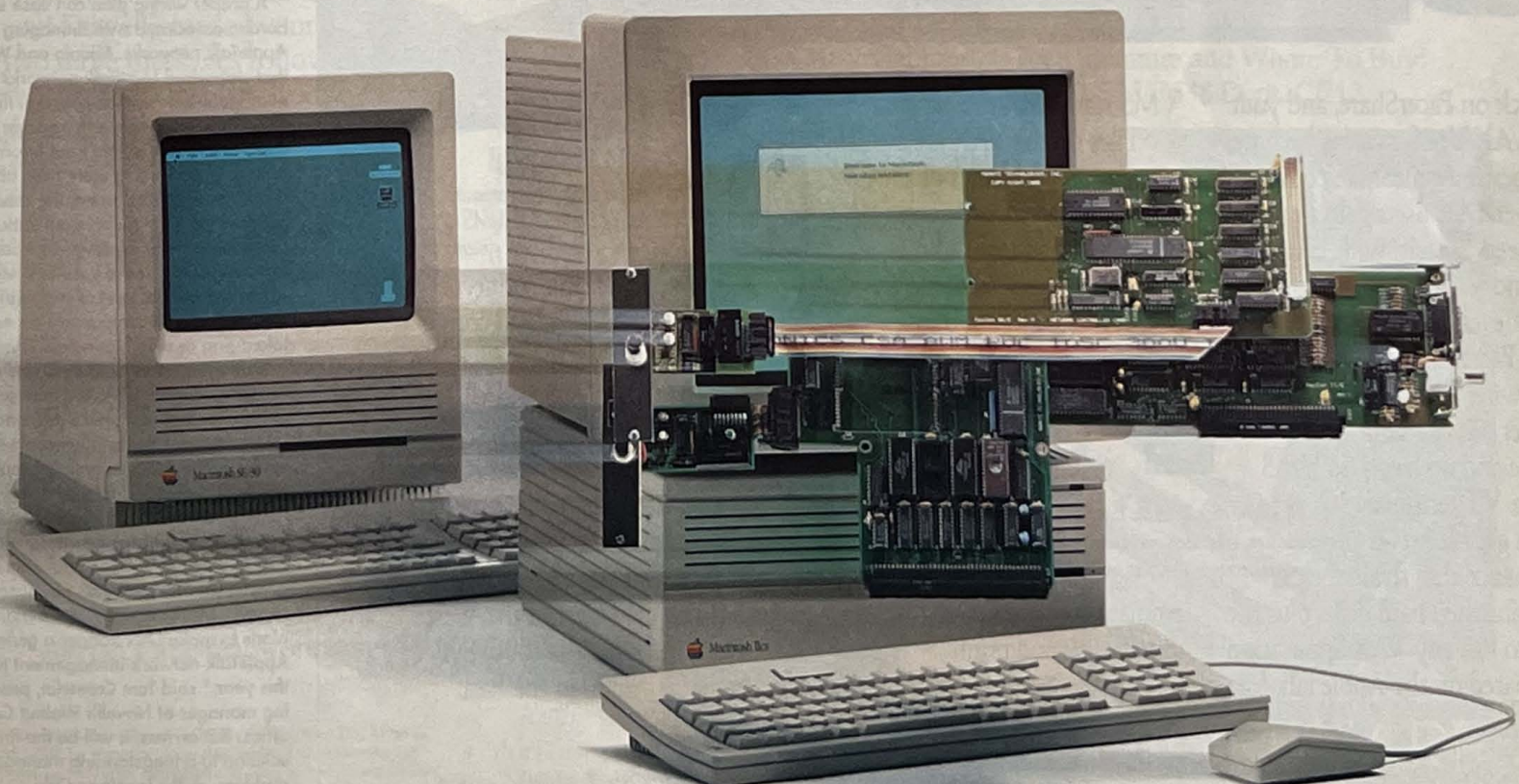
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WHERE ARE THE MANAGEMENT TOOLS?

The virtual absence of general network management tools for large AppleTalk internets can make the job of network management especially difficult and time-consuming. Even for small multizoned networks, the lack of tools to isolate and analyze internetwork aberrations can lead to a seemingly endless series of trial-and-error solutions.

The limited general tools available, including

CheckNet and TrafficWatch from Farallon Computing Inc. of Emeryville, Calif., and InterPoll from Apple, allow the network manager to determine some simple network characteristics such as network continuity, intrazonal traffic patterns and which versions of system software are being used. What these tools do not provide is a way to track and isolate problems. Unfortunately, the network management tools

that offer more functionality are mainly product-specific, such as LAN Ranger from Novell Inc. of Provo, Utah; StarCommand from Farallon; and the TurboStar Manager from NuvoTech Inc. of Sausalito, Calif. These applications come bundled only with their respective hardware.

These product-specific tools come closer to offering the range of features that most network managers expect, but they fall short when compared with those available for other environments, such as those found in IBM PC and Unix networks. Other LAN systems have progressed to the point where network managers can be notified by visual and audio alarms when network problems occur. The management software often is also capable of logging significant network events so that problem areas can be tracked continuously. This logging in particular can help network managers identify suspect network components and connections so they can be replaced before they fail.

"I do the best I can with TrafficWatch, InterPoll and an ohmmeter," said Paul Derby, a group director at Control Data Corp. of Minneapolis. Always short on time, Derby said he wishes that Farallon would update the TrafficChart macros to provide more information and use some of the new features of Microsoft Excel 2.2.

Celso Miao, a partner at NetStrategies, a network consulting firm in Toronto, resorts to "commercial-grade network testing equipment like Hewlett-Packard protocol analyzers" to diagnose and resolve LocalTalk network problems, he said. He admits that "most small businesses cannot afford such expensive test equipment, and therefore we provide a unique service to those with stubborn Macintosh LAN problems."

Miao and his partner, Steve Webster, recently completed the installation of an 800-node network at a large Toronto law firm. "When we took over, [the firm] had a 100-plus-node daisy-chain LocalTalk network that required 80 hours per week just to keep running," he said. After rewiring the entire building and installing 30 GatorBoxes from Cayman Systems Inc. of Cambridge, Mass., and many Farallon StarControllers, the network has stabilized and can withstand constant use.

A proper wiring plan can ease some of the burden associated with managing large AppleTalk networks. Miao and Webster said that star-wired LocalTalk networks are most manageable when each port on the hub is dedicated to a single network node. In this configuration the hub will isolate troublesome nodes automatically, preventing them from affecting the performance of the rest of the network. When used with their respective network management applications, star topologies let administrators test and control entire LocalTalk networks from a single station. The cost of such wiring schemes is still far less than comparable connections used in token-ring or most star-wired Ethernet networks.

Management of hardware and software resources connected to the network is often part of the network manager's job, and managers with whom we spoke mentioned the lack of useful network documentation tools. The application that comes closest to doing the job is Novell's LAN Ranger. Many liked its graphical representation of the internetwork but said they hoped it would become available as a more-generic tool for networks not based largely on Novell's Mac products. "We definitely have plans to make LAN Ranger a general-purpose AppleTalk network management tool sometime this year," said Tom Cromelin, product marketing manager at Novell's Walnut Creek, Calif., office. If it arrives, it will be the first multivendor solution to a longstanding management problem. — By Jonathan Oski

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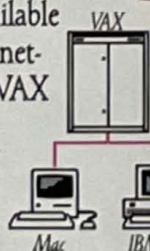
VMS standard.

Files on the VAX are available to users on both sides of the network. Mac users can access VAX files shown as icons (directories as folders), while VAX

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PacerLink connects IBM PCs (and compatibles) as well as Macs to VAX (VMS and ULTRIX) and many UNIX systems†.

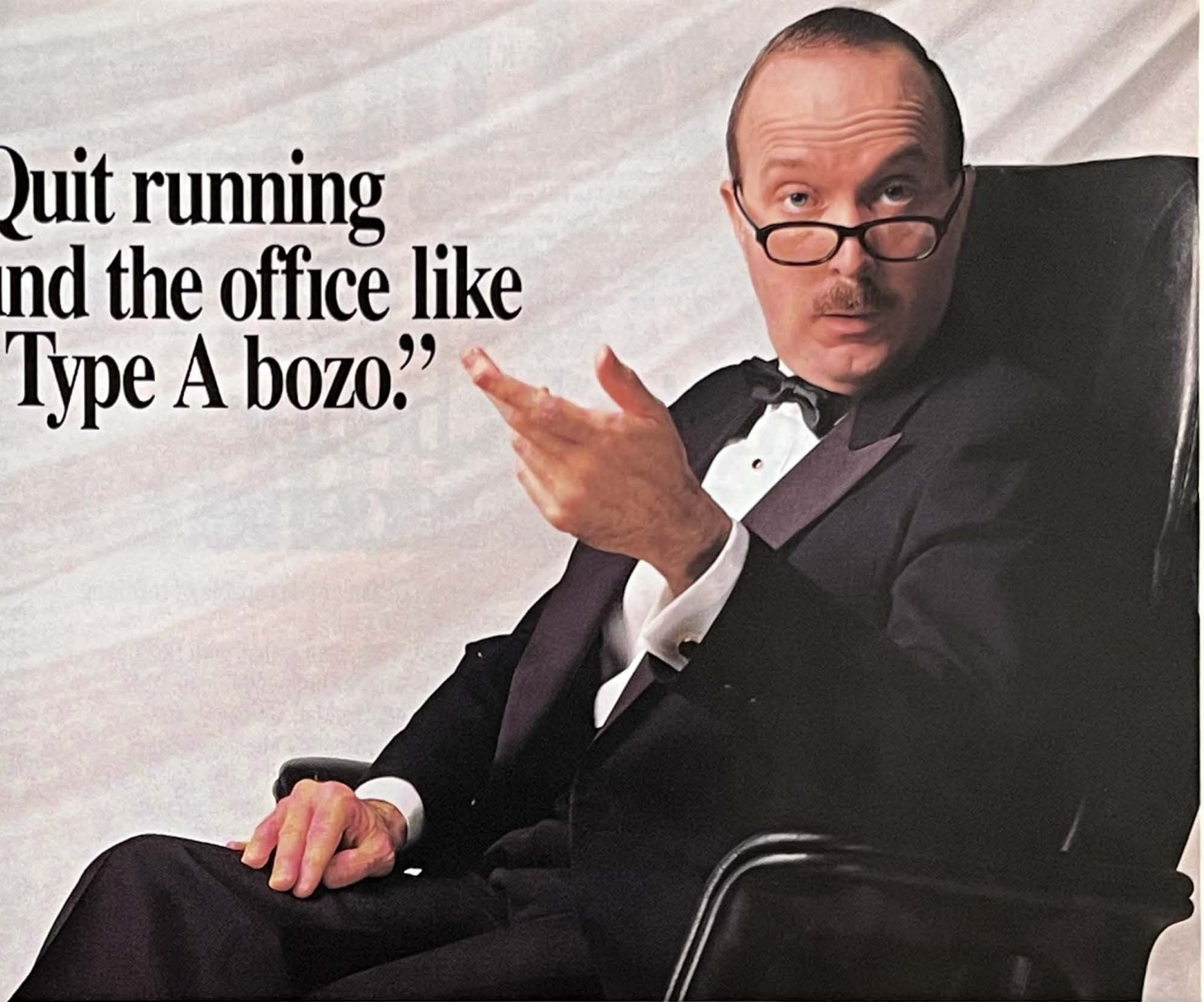
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“QuickMail is simple, yet rich. People enjoy using it, so they use it more. Good. Whether you’re sending mail around your LAN or around the world, QuickMail makes it so fun and easy, people will cut down on time spent playing games, and get some real work done.”

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Ask the critics.”**

“As we said before, CE Software’s QuickMail is the best electronic mail package on the Mac, and the latest updates have only increased its lead over Microsoft Mail and InBox.” MacWeek, 8/8/89

“Rather than exercising 20-20 hindsight, start out with QuickMail.” Dave Kosiur, Connections, July-August/89

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FIGHTING THE NETWORK SECURITY BATTLE

According to networking consultant James Kalin, network security means careful administration and planning. Kalin tested his theory recently when he took on the job of improving network security at an engineering company that handles top-secret government projects.

The company had recently begun hooking smaller networks into an enterprisewide net.

That process worried those departments responsible for classified projects. In addition to addressing the concerns of these groups, Kalin handled more-typical security issues, such as file access, password protection and protection of archived material.

The network, based on TOPS from the TOPS Division of Sun Microsystems Inc. of Alameda, Calif., offered limited password protection. Kalin

switched the operation to AppleShare, which lets the network administrator assign types of access (read, write, see, copy) to files for each employee and assign passwords.

Employees have a tendency to choose the obvious, Kalin said. "In one situation at this company, I myself figured out someone's password when they were unavailable. I used that as an example of why we needed to have passwords assigned by the net administrator."

Kalin chose AppleShare over a version of NetWare from Provo, Utah-based Novell Inc. because, he said, that product is "too buggy." NetWare offers nine levels of security as well as such niceties as encrypted passwords, audit trails and alarms.

Despite Kalin's efforts, one highly classified department pulled out of the internetwork and is considering sealing up floppy drives and keeping data on server machines that are inaccessible to regular users.

To protect against outside interlopers, Kalin worked with the company to create a dial-back modem setup. Phone lines are scrambled, and anything truly classified is sent via secure carrier, not electronic mail or modem. In addition, the company's E-mail system is set up on a separate network that carries no sensitive files.

Because the company also does heavy document processing, Kalin installed a MARS system from Micro Dynamics Ltd. of Silver Spring, Md. "It's a superior security system as well as an excellent archiving and retrieval system," he said.

Kalin made the network administrator's office a clearinghouse for software and data brought in from outside the office. Outside files not checked by the administrator for viruses are strictly verboten. This procedure also should help weed out the use of pirated software, Kalin added.

The final step in setting up a secure network, Kalin said, is thorough education. He trained the network administrator in maintaining the security barrier. In turn, she set up regular classes for employees to cover security dos and don'ts.

— By Mitzi Waltz

MailMate. It's better to send and to receive.

When you're looking for a quick, cost-effective way to bridge the mail gap, you should consider a special delivery from Alisa, the originators of Mac-to-VAX connectivity software.

It's MailMate from Alisa. A Macintosh-based bridge for CE Software's QuickMail or Microsoft Mail 2.0 that provides a two-way exchange of text messages with DECnet mail. MailMate uses QuickMail's and Microsoft's open gateway architecture plus our DECnet package for the Mac

to make it a true DECnet node capable of receiving and sending DECnet mail.

Now it's easy to exchange mail with DECnet mail systems. Including VMSmail, ALL-IN-1, TSSnet NetMail, and services supported by Digital's Message Router, such as IBM PROFS and X.400. And using MailMate is simplicity itself. All you need to implement it is a DECnet node assignment for your QuickMail or Microsoft Mail server.

MailMate. Sending and receiving have never been better.



Networks

From Page 26

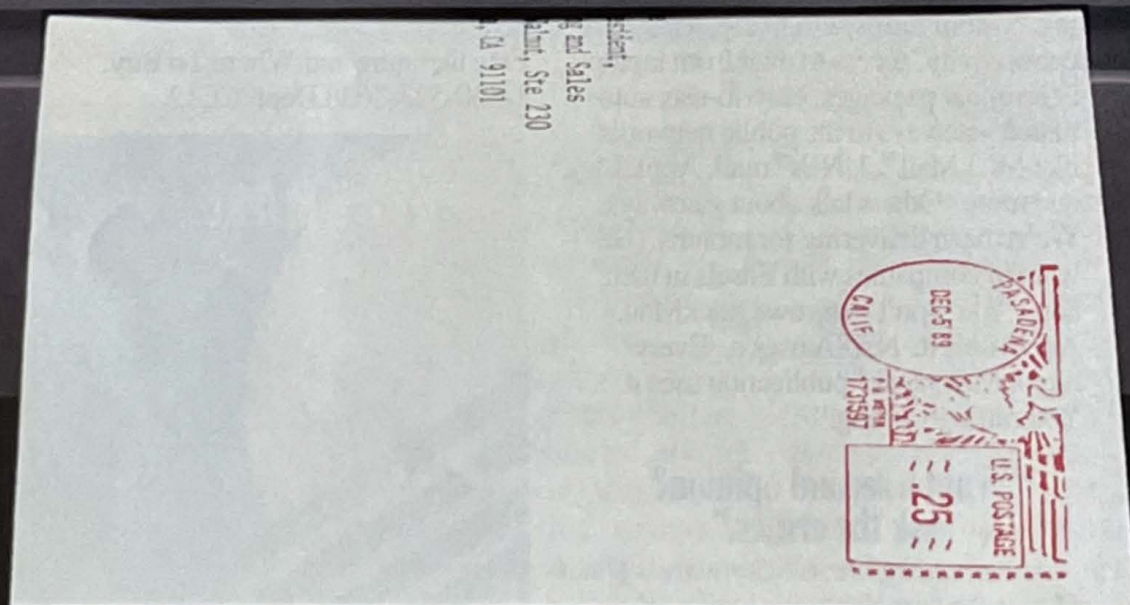
Window server from White Pine Software Inc. of Amherst, N.H. and uShare from IPT of Calabasas, Calif., is just getting off the ground.

On the DOS side, Provo, Utah-based Novell Inc.'s NetWare for Macintosh, which connects Macs to the most prevalent IBM PC and compatible networking standard, is "just not there yet," in the words of one LAN specialist at a Midwestern financial firm. It will take time before the seams disappear, which means that the headaches will continue for managers of mixed networks.

"We have a need to easily communicate between the Mac and IBM worlds — both token ring and mainframe," said Jim Chase, director of computer services at KPMG Peat Marwick in Montvale, N.J. "But we are still evaluating the situation."

The bottom line. If you were to set up identical networks for two identical purposes, you'd end up with two different sets of network management tasks. Plenty of obstacles lie in your way, and that perfect 100-node network remains just a dream.

However, networking with the Mac remains, in the long run, a lot more pleasant than networking with many other systems, managers reported. As one university administrator put it: "The AppleTalk domain is dicey, real loose, and it requires a lot of troubleshooting. But once you get it right, it's rock-solid." □



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Broadband future: Media at a keystroke

By Amy Berman

MIT's Media Lab lays plans for a multimedia future in every home



The Media Lab research crew hopes to make a trial run of its broadband cable projects, giving users access to customized video and data searching, at the 1994 Winter Olympics.

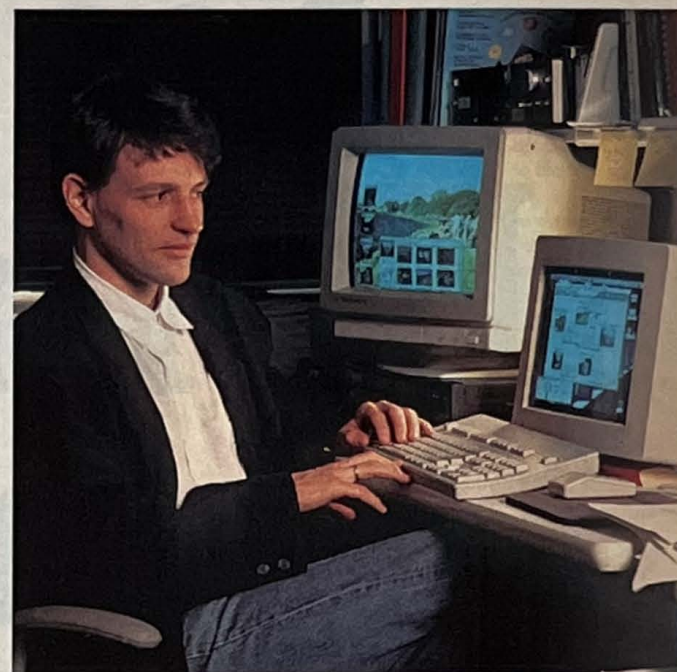
Mega mind boggle. Blowing bauds out your ears. A coming nationwide broadband network could be the basis for a new combination of media that will make MTV look like the last century's kinetoscopes. This capacious new network could give computer users everywhere instantaneous access to digitized video, films and other visual archives — from feature films to mug shots.

Sound far-fetched? Not to the computer scientists at the Massachusetts Institute of Technology's Media Lab in Cambridge, who are enthusiastically researching the future of computer, television, network and other technologies.

Using the Mac and HyperCard as the front end, computer scientists at MIT are investigating ways to combine media into one seamlessly and constantly accessible database. Imagine watching the news. Manuel Noriega's face comes up. Click on it and get a full backgrounder in the corner of your screen.

"In the future, every house will have a broadband cable network," said Hans Peter Brondmo, a computer scientist at the Media Lab. "Bits won't be the limitation, so you'll be able to do whatever you want. The question is: What do you want to do?"

Creating the physical conduit for these full-motion and still-frame images — as well as the associated text — will be left to local exchange

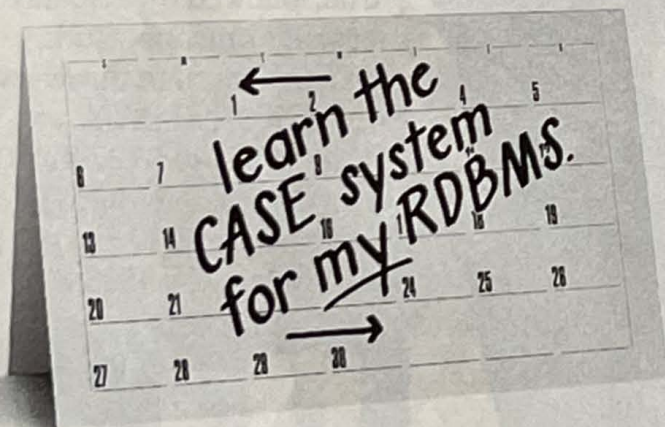


WICK FREEMAN/BLACK STAR

carriers, such as the Bell Operating Cos., which will develop a 155.52-Mbps broadband Integrated Services Digital Network (ISDN), according to Paul Shamate, division manager of network technology research at Bellcore, the Livingston, N.J.-based research arm of the seven regional Bell Operating Cos.

Broadband networks can simultaneously transmit multiple data types, such as data, See Broadband, Page 42

Computer scientist Hans Peter Brondmo of MIT's famed Media Lab is looking into a media future in which news, video clips, photos and entertainment will be at every keyboard's beck and call.



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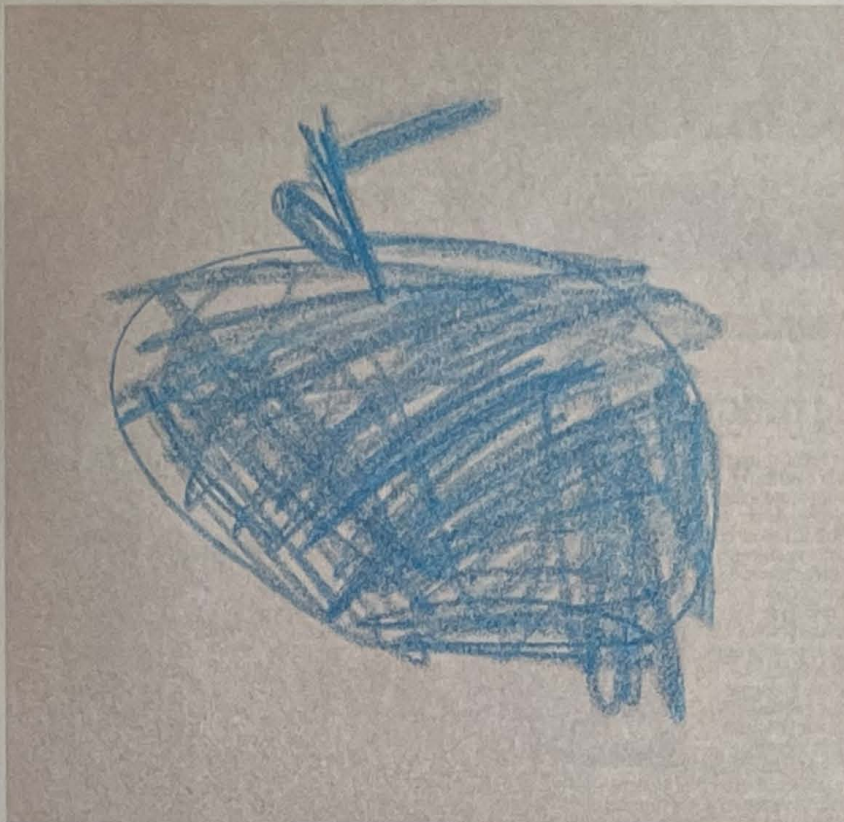


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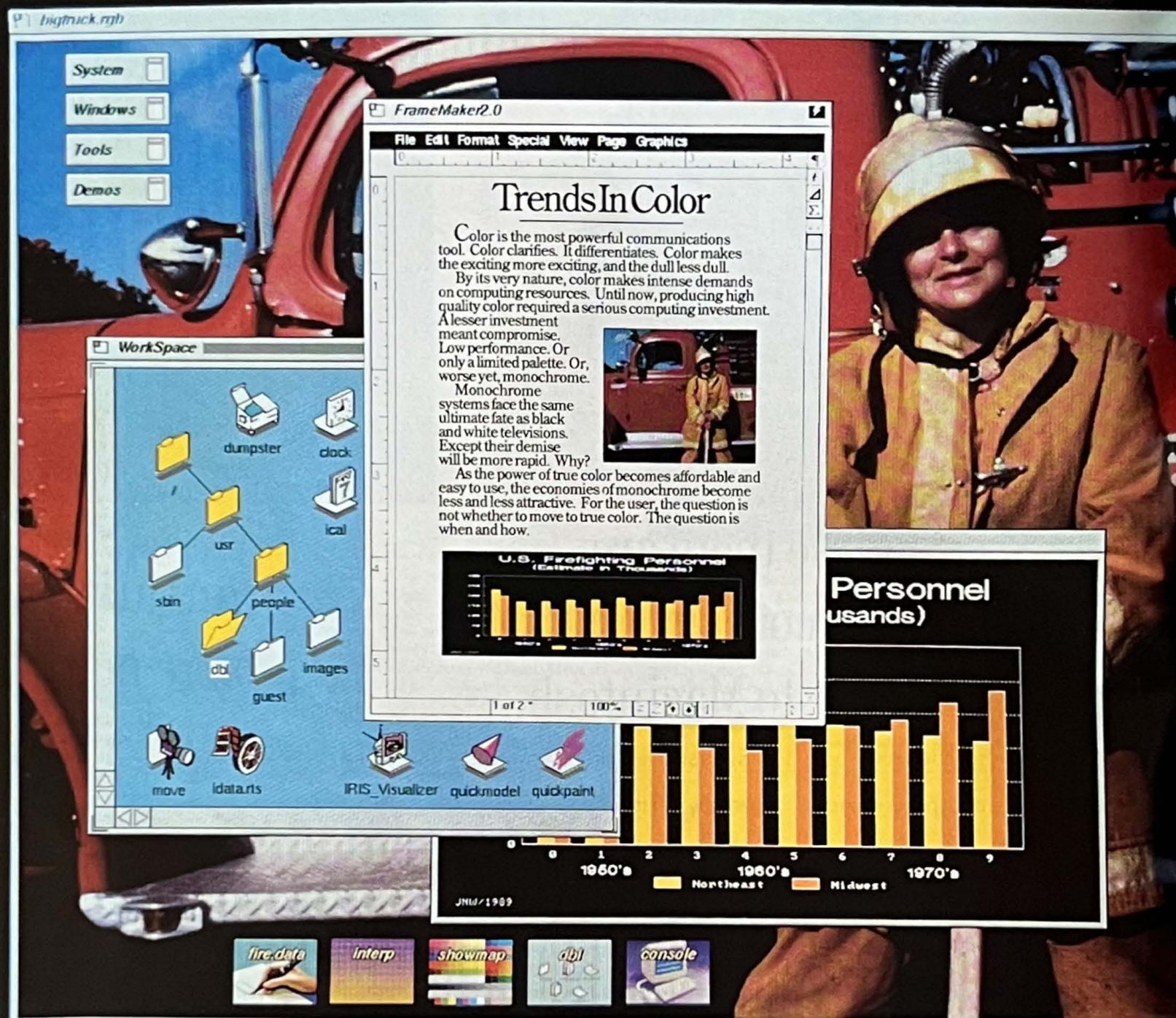
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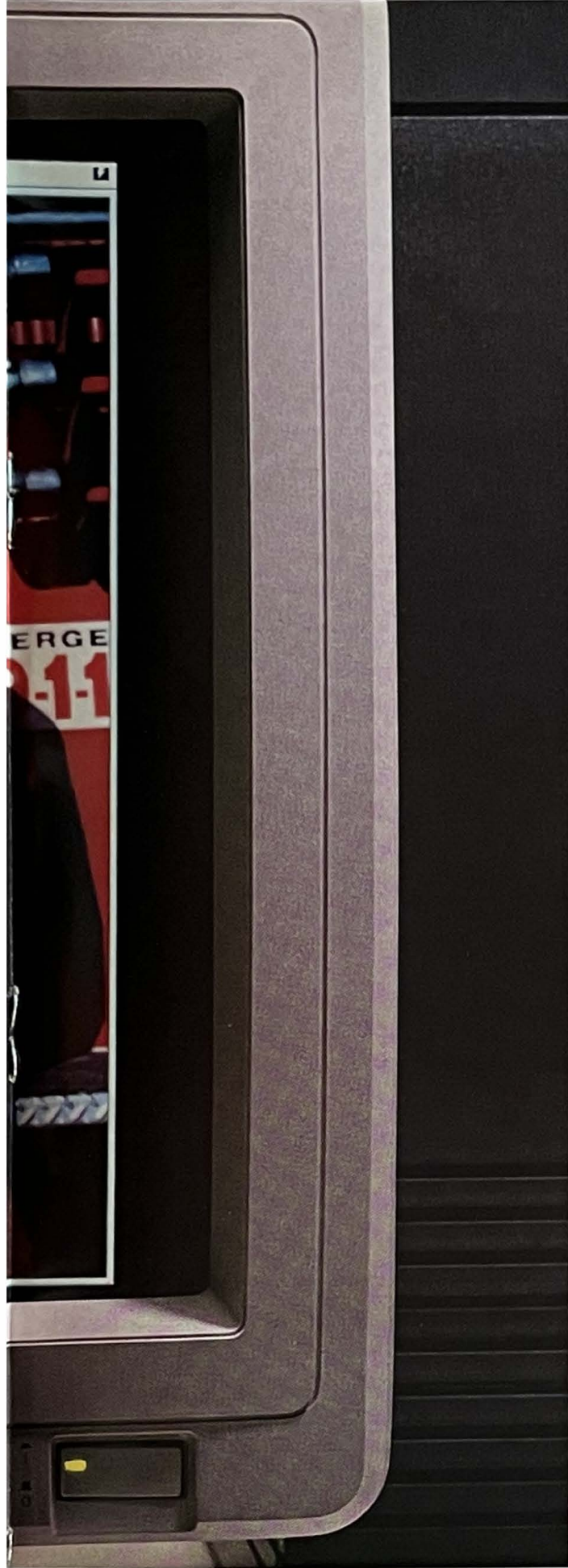
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Broadband

From Page 38

video and voice, on the same media using multiple frequencies.

Each ISDN channel handles 155.52 Mbits. "Four channels could come into a home," said Shamate, which means the combined network would handle 622.08 Mbps.

Four manufacturers have announced products geared to this new standard, which is expected to be approved in 1992 by the Consultative Committee International Telegraph and Telephone.

"Early users are going to be businesses with metropolitan-area networks, using the network for high-speed data transfer and video conferencing," Shamate said.

Prototypes could be available as early as 1991, Shamate said, with 1 percent of the potential customers, or 1.2 million connections, on the system by 1995. If the federal government encourages more-rapid development, as many as 20 million users could be on-line by the turn of the century, he said.

"The network is what's exciting in the long run," said Brondmo. Once it's established, he

said, the options are limitless. For starters, the 27-year-old Norwegian envisions custom computerized magazines, which would have HyperCard-based electronic tables of contents containing Micons, full-motion four-second movies designed to show the "reader" what the story is about.

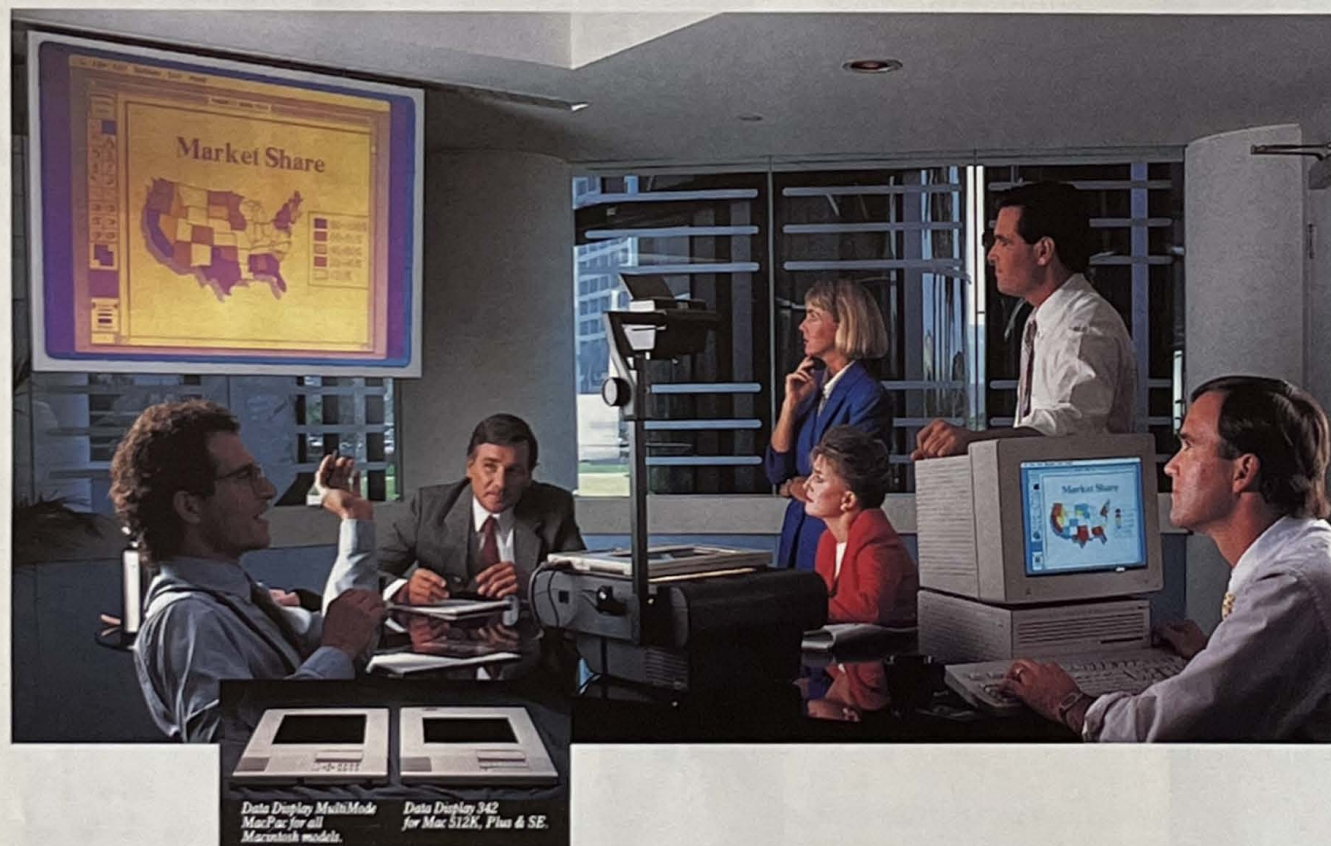
News programs would use the same HyperCard technology to offer rapid access to background information on the topic at hand; the user would determine the parameters of the database search.

As scientists, the lab's researchers don't

often dwell on the commercial implications of their work, but it's easy to imagine that access to these databases could deliver vast new sources of revenue to those who own the archives.

Within the lab, the 208 researchers trying to change the shape of television, newspapers, movies and music recognize that such research doesn't come cheaply; 65 companies and government agencies help underwrite the efforts of the center, which was founded in 1985. Numerous computer companies, including Apple, AT&T, Hewlett-Packard Co., and, from Japan, NEC Corp. and Fujitsu Laboratories, have joined movie studios and TV networks in sponsoring the center's \$13.3 million annual research budget.

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The network is what's exciting in the long run. Once it's established, the options are limitless.

Because so much of this futuristic technology depends on immensely improved data storage, the lab also is at work on projects to deliver the necessary enhanced compression algorithms. The result could allow entire 90-minute movies to be stored in memory without the need of CD-ROMs as a storage device.

"The common compression ratio today is 7-to-1," said John Watlington, a computer scientist at the lab who has been experimenting with computer-generated images that mimic full-motion video. "The minimum we need for full-motion video is 60-to-1."

Confident that at least some of the necessary gains can be made within the next four years, the lab's researchers are proposing that the International Olympic Committee consider establishing the first on-demand digital network for video and text for the 1994 Winter Games, which will be held in Norway.

Technological limitations would restrict to a half-dozen the number of customized versions of the games — and the relevant background material. Reporters and guests within the Olympic Village who screen these events would probably use a Mac or a computer with a similar easy-to-use interface to access the system, said Glorianna Davenport, a film maker and an assistant professor at the lab. "It's still the best interface for the living room," said Davenport.

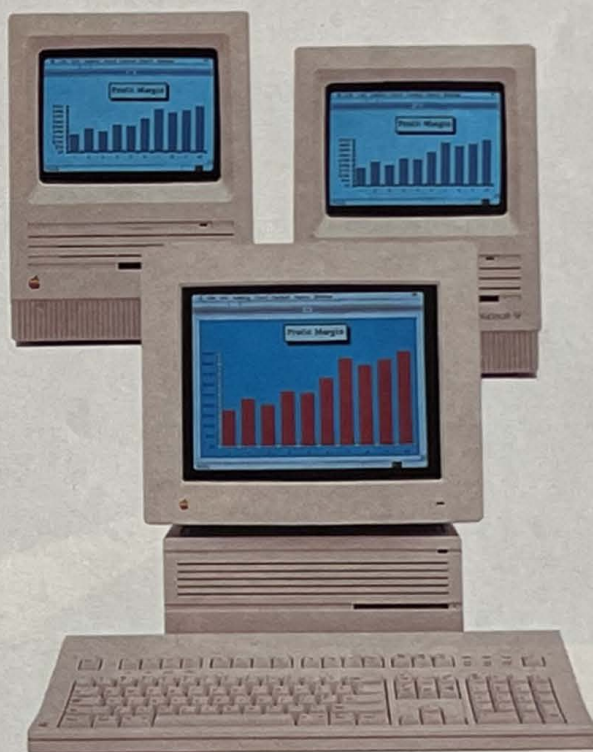
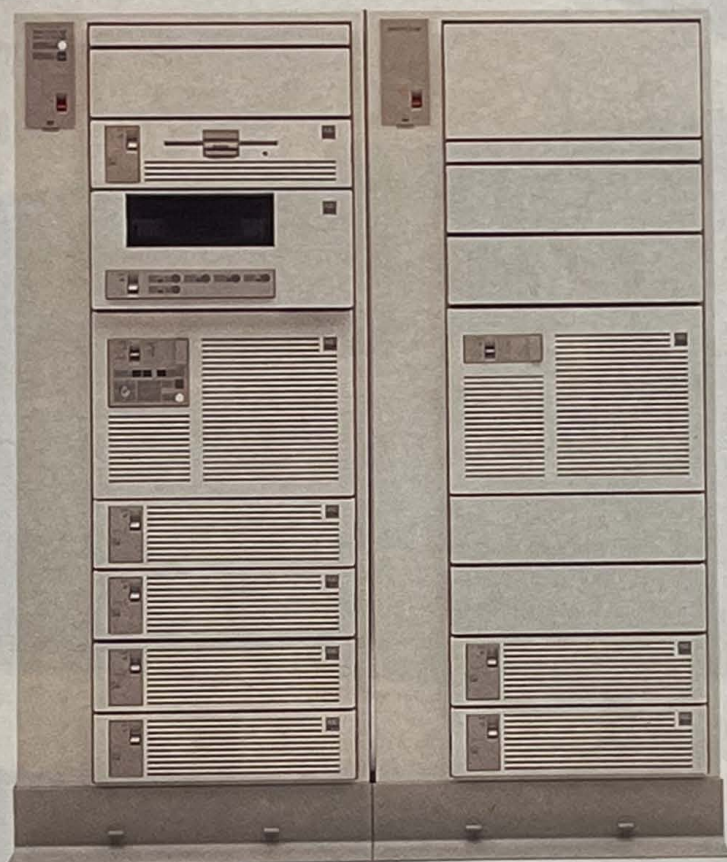
But the Olympic trial, if it succeeds, will be only the barest beginning. Brondmo and his colleagues are still identifying how people could use this integrated network in the real marketplace.

Monitoring computer-aided manufacturing is one possible application for Micons, since the moving images could show workers a realistic likeness of the process at hand.

News organizations could deliver customized programs, and advertisers might pay a premium to reach such a highly targeted audience. Other service businesses could cull data for clients based on particular requests.

It is these demands, said Brondmo, that will define the scope of the databases to come. "It's only after you understand the information that's going to be needed that you can begin to figure out the requirements," he said. □

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COMPARISONS

MicroPhone vs. White Knight: The best in telecom get better

White Knight has been greatly improved, but MicroPhone II has the edge for business users.

By Dennis Klatzkin

In the annals of Macintosh software, no two programs have been compared more intensely and often than Software Ventures Corp.'s MicroPhone and The FreeSoft Co.'s White Knight (known until recently as Red Ryder). The reasons are clear: Together, the two programs have owned the lion's share of the Macintosh telecommunications market for years. And their feature sets correspond closely (see MacWEEK, Aug. 22, 1989).

Long-overdue upgrades of both products, in the works for almost two years, are finally shipping. We examined Software Venture's MicroPhone II 3.0 and FreeSoft's White Knight 11.04 and found many of their new features quite comparable and welcome. The issues that set the two programs apart continue to be ones of style, user interface, documentation, support and price, rather than matters of technical capability.

The 1990 models. The lists of new features in both MicroPhone II 3.0 and White Knight 11.04 are immense, including many enhancements to their scripting languages, file transfer protocol offerings and overall user interfaces.

Both programs now have a special window in which buttons and color icons (and, in the case of White Knight, color pictures) compose graphical palettes for initiating the execution of scripts. White Knight supports the Mac's 256-

color mode in all its major windows; MicroPhone II supports full color in its icon window, but its main terminal window can display only the eight basic QuickDraw colors—a rather pointless feature unless you like to read cyan text on a magenta background.

MicroPhone and White Knight now support VT-102 terminal emulation, including American National Standards Institute color extensions.

MicroPhone II 3.0 introduces support for international character sets, optional password protection for documents or scripts, a buffered keyboard window, and enhanced printer support. And bundled with the program are front-end script sets for many widely used on-line services, such as CompuServe, Dow Jones, GENie and MCI Mail.

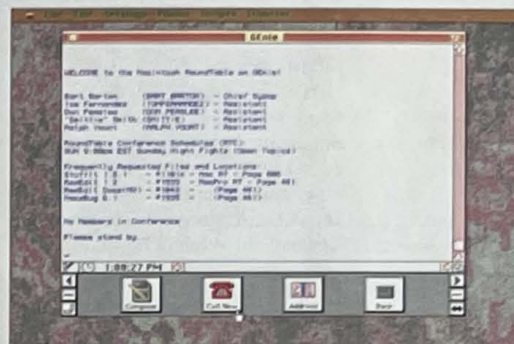
White Knight 11.04 now has special filters for customizing how specific characters are processed on-screen and during file transfers. The program also features greatly enhanced printer support, an expanded Host Mode and an improved Phonebook that's more convenient to use from the keyboard.

MicroPhone II 3.0's user interface is largely a carry-over from earlier versions, and most of the program's new features are accessible from dialog boxes or within the scripting environment. It's a familiar, Mac-like application, and most of its complexities stem from the vagaries of telecommunications rather than unclear program design.

White Knight 11.04's interface has been revamped quite a bit, mostly through a reorganization of its menu options that produced a top-heavy reliance on hierarchical menus. As a matter of fact, the new program has so many scores of features available from menus that its designers saw fit to implement a system of double Command-key shortcuts (such as Command-B-E for erasing the screen buffer). It's definitely a step backward in Mac program design, despite much practice, we continue to find it unintuitive and clumsy.

Neither MicroPhone nor White

Knight includes any kind of on-line help, which would be a valuable aid for novices. But the manuals for both programs have been entirely rewritten and are great improvements over past efforts. White Knight's 275-page manual is now more approachable for beginners, but it's still sparsely illustrated and has a rather homemade feel. The new MicroPhone II package contains a set of three slickly produced manuals: a 206-page users guide, a 404-page reference guide, and a 132-page guide to resources and utilities, mainly for the scripting language. The books are well-illustrated, clearly written and professional.



Both Software Ventures Corp.'s MicroPhone II 3.0 (top) and White Knight 11.04 (bottom) from The FreeSoft Co. provide special windows in which color icons and buttons can be used to initiate scripts. White Knight's main terminal window supports the Mac's 256-color mode; MicroPhone's main window offers a much-less-useful palette of the basic eight colors.

Playing by the script. Both programs feature useful Watch Me modes for automatically recording new scripts while you perform any series of program activities. Further scripting in MicroPhone II is still

largely a point-and-click affair, in which you select commands and functions from scrolling lists and enter parameters in dialog box fields. Users proficient in writing

See Comparison, next page

TRENDS

What's new in Mac display technology

By Ken Milburn

The introduction of the Mac II series at the end of the 1980s gave Macintosh users the ability to tailor Mac display systems to any need, from database management to electronic photo retouching. New monitors and boards follow the trends of more-affordable display options (such as 24-bit color and QuickDraw acceleration), greater

applications flexibility, wider use of two-screen configurations, more-readable on-screen text, better ergonomics and greater safety.

True color gets cheaper and faster. True color (16 to 24 bits per pixel of color information running under 32-bit QuickDraw) has the ability to display all visible colors and negates the need to index on-screen colors to a palette.

However, off-the-shelf 32-bit QuickDraw dramatically slows all operations that cause the screen to redraw. Since this affects all graphics operations (even mundane tasks such as opening and scrolling windows), Bob Archer, president of Compro Connecting Point, a Macintosh value-added reseller serving major corporations in the Dallas/Fort Worth, Texas, area, questioned the practicality of unaccelerated true color for general-purpose use. "Waiting three or four seconds for a window to move when you drag it can make you crazy," Archer said.

One solution is using true color on smaller screens. With one-fourth the number of pixels, true color on a 640-by-480-pixel, 12- or 13-inch monitor is significantly faster than true color used on the

See Trends, Page 48



NEVIN BURGESS

Comparison From previous page
scripts and comfortable with traditional, text-based code entry may find MicroPhone's editing environment cumbersome, but the program also can import scripts written as text files. Less-experienced users will find that MicroPhone's Mac-like scripting gets them up to speed very quickly.

Unlike White Knight's scripts, which must be compiled before they are played back, MicroPhone's scripts can be run immediately after they are written. The result is a measure of convenience during script development but also slower, more erratic script execution.

MicroPhone's scripting language now supports data arrays and an expanded set of file manipulation features such as deleting, copying, renaming and setting the attributes of any file from within MicroPhone scripts, as well as reading and writing multiple documents simultaneously.

The most significant enhancement to scripting in MicroPhone II 3.0 is the language's extensibility by means of HyperCard external commands and functions. These code segments, easily incorporated into scripts, can add entirely new dimensions to the program.

Software Ventures also includes a MicroPhone-specific version of

theResult Software Inc.'s excellent Dialoger, a HyperCard utility that lets you design and generate custom dialog boxes and incorporate them into your scripts (see MacWEEK, Sept. 12, 1989). MicroPhone's use of standard HyperCard externals means the huge existing library of HyperCard extensions can be applied to MicroPhone II.

White Knight 11.04, on the other hand, introduces external commands for its scripting language, called RCMDs, that are proprietary and not interchangeable with HyperCard externals. The scripting language in White Knight now offers more-powerful control of program flow, variables and file manipulation. It also has been expanded to support the program's enhanced Host Mode and its larger set of file transfer protocols, including Zmodem, Ymodem-G, Kermit (Classic, Long Packet and Sliding Windows), and FreeSoft's own Flash protocol.

For a limited time (about the next six months or more), FreeSoft is

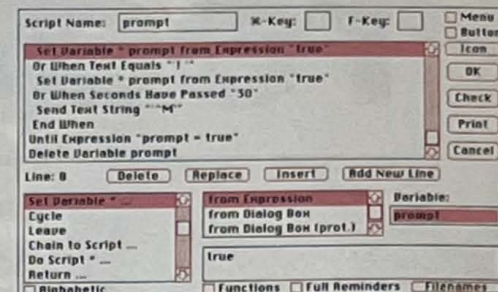
bundling a copy of its Okyto application with every copy of White Knight at no added cost. This program manages simultaneous file transfers in both directions at optimum speeds, either by modem or over an AppleTalk network, and "live" communications — assuming the parties on either side of the connection use Okyto. It can, in fact, handle five discrete telecommunications channels at one time.

Head to head. In a sense, it's easier to compare MicroPhone and White Knight now than it used to be. In earlier versions, there were more trade-offs, but with the current versions, MicroPhone no longer has to take a second-row seat when it comes to scripting power, nor does White Knight have to suffer criticism of its transmission speeds.

To be sure, there are performance differences, but they're not

conclusive. MicroPhone appears to have an edge when it comes to high-speed transfers (9,600 bps and greater) and writing to the screen, but the cost is a somewhat jerky text display. At slower transmission rates, the speed differences between the two programs are negligible, yet White Knight's display is smoother.

In terms of ease of learning and use, there's a more clear-cut distinction: MicroPhone has been and continues to be the better-documented and more approachable application. Its user interface adheres to Macintosh standards more closely, and its



MicroPhone II's scripting environment is full-featured and well-integrated into the program. Scripts, which can include HyperCard XCMDs and XFCNs, also can be written as text files and imported.

scripting environment is less abstract than White Knight's.

We think users who are relatively non-technical (perhaps ones who've only dabbled in HyperTalk programming) could design and script a customized front end in MicroPhone II, complete with dialog boxes, message windows and

See Comparison, Page 49

MacInTouch

RIC FORD AND RICK LEPAGE

Fine-tuning the Finder with Layout 1.9

BUGS & TIPS

Layout 1.9. Mike O'Connor's Layout is a public-domain program that performs a function Apple never provided — modifying the Finder's LAYO resource in a user-friendly way. The LAYO resource, which also can be customized with certain versions of Apple's ResEdit, allows you to make changes to the way in which the Finder displays the desktop.

These attributes include the font and size of text for icon names and file lists within windows, the colors displayed in the Color menu, the spacing in different icon views, and the default view when a new folder is created. For people who may have assumed that these characteristics are static, Layout presents a new way to modify the desktop without having to probe the depths of ResEdit. For instance, we have found that it is easier to read a 19-inch screen when you raise the Finder's default 9-point Geneva type to 12 points.

Power users can do things like turn off the warning received when an application or System file is thrown in the Trash, turn on the Finder's invisible grid for lining up icons, set the maximum number of open windows the Finder can support, and enable the "Title Bar Click." With this last feature enabled, whenever you double-click on a window's title bar it will automatically open that window's parent window (or bring it to the front of the screen if it is already open).

Layout allows you to copy attributes from one Finder to another, and you can always return to Apple's default setup.

Layout has been around for



some time, and O'Connor updates it as Apple adds functionality to the Finder. The latest version is available in Library 7 of CompuServe's MacProduct forum under the title LAYOUT.APP and in the Miscellaneous file section of Connect's Mac Symposium.

DeskWriter refills. One of the hidden drawbacks of using Hewlett-Packard Co.'s DeskJet or DeskWriter inkjet printers is that the ink used in the cartridges is not waterproof. While HP has acknowledged that offering a waterproof ink cartridge for the printer is a priority, it is still months away from market.

A number of users have come up with a way to refill the ink cartridges with over-the-counter waterproof inks, and we wanted to give it a try ourselves.

We used a glue syringe, which can be found in many hobby or woodworking stores, and added about 5cc's of Parker Super Quink black ink through the tiny hole in the top of an ink cartridge. After priming the cartridge a few times, our DeskWriter printed perfectly.

HP obviously has not sanctioned this practice, and given the relatively low cost (\$15 to \$18) of a new

ink cartridge, this procedure has value only for those users who have to print with waterproof ink or hackers who would prefer to save a few bucks here and there.

A number of files in the HP forum on CompuServe (GO HP-1) contain information on users' experiences with re-inking cartridges. We think that it is important for anyone considering this procedure to take a look at these files and some of the messages on the forum before attempting to re-ink cartridges.

Claris bugs. Following through on last week's column detailing bugs in the Mac IIci, we missed a problem with the plotter driver that Claris Corp. licenses for use with MacDraw II, Claris CAD and MacProject. Using it with a IIci will freeze the Mac. Claris is aware of the bug and should have a free update soon for anyone encountering this problem.

A problem with the Mac Portable and Claris' Public Folder (see MacInTouch, Oct. 17, 1989) occurs if you have Public Folder running and the Portable enters Sleep mode, which suspends AppleTalk temporarily. When the Portable is turned back on, Public Folder does not re-initialize. Claris recommends turning off the Sleep feature when hooking the Portable to a network.

We welcome comments at MacWEEK, 4 Cambridge Center, Third Floor, Cambridge, Mass. 02142; (617) 497-2600; (617) 497-2646 (fax). Electronic Mail: CompuServe: (Ric Ford) 75410,2612, (Rick LePage) 76117,1765; GEnie, America Online, Delphi, PAN: MACWEEKBOS; Connect: RICKLEPAGE, RICKFORD; AppleLink: (address to "MacInTouch" in Subject): MACWEEK; Internet: MACWEEKBOSTON@MCI.COM; MCI Mail: MACWEEKBOSTON.

In summary: Telecom software

White Knight (formerly Red Ryder) and MicroPhone II are the heavyweights in Mac telecommunications software. In our review, we found that the best just got better: The two programs are neck and neck in terms of features, and differ mainly in their support and pricing schemes.

Software Ventures Corp.'s MicroPhone II 3.0 has vastly improved features and a powerful, augmented scripting language that uses HyperCard externals. It has a good range of file transfer protocols, including Zmodem with very fast data throughput that approaches maximum levels.

We found only a few problems with this new version: Text writes to the screen in a jerky manner, most noticeably at high speeds but even at 2,400 bps; script execution is sometimes slow or erratic; and the program doesn't support 256-color mode in the main terminal window.

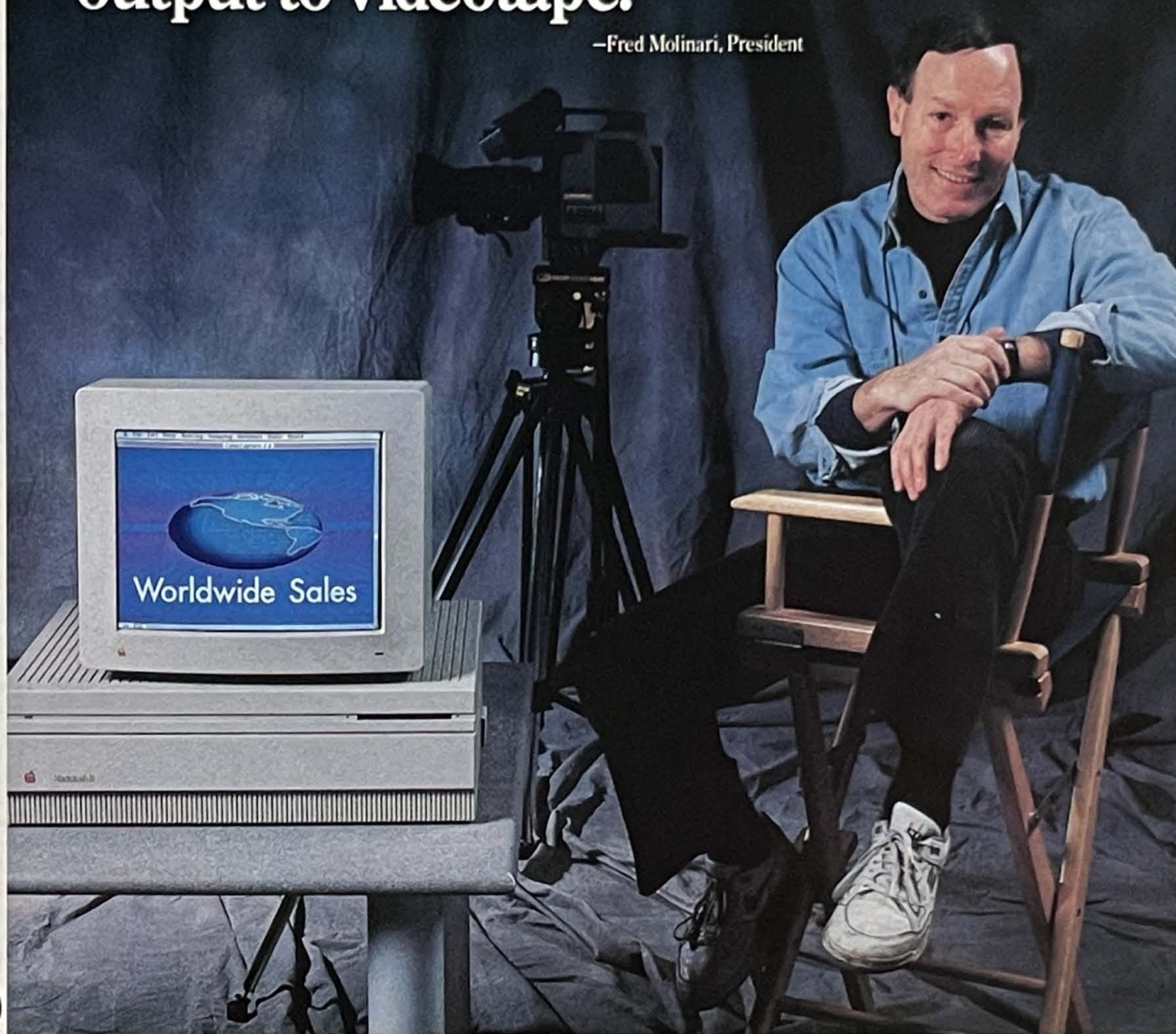
But the program's strength in comparison to White Knight continues to be its intelligent, friendly use of the Mac interface and its excellent documentation, although there is no on-line help.

The FreeSoft Co.'s White Knight 11.04 is priced at half the cost of MicroPhone. It's a powerful general-purpose telecom program that packs in almost every imaginable feature. It has a very capable scripting language that is now extensible via proprietary RCMDs and has an excellent range of file transfer protocols, including Zmodem. It supports 256 colors in most windows, unlike MicroPhone, but we find the non-standard user interface feels un-Maclike. Like MicroPhone, White Knight has no on-line help.

White Knight's weaknesses are its support and upgrade policies that are aimed at hobbyists and seem inappropriate for business users who don't frequent networks such as CompuServe and GEnie or belong to users groups.

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—Fred Molinari, President

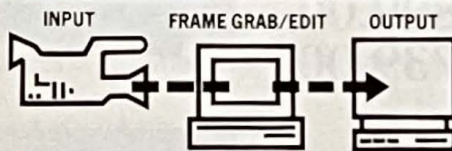


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Trends

From Page 45

1,024-by-768-pixel, two-page displays that first introduced the public to true color.

Two pages, two monitors. Because of the low cost and higher speed of smaller screens for 24-bit color and the availability of two-page monochrome display systems for as little as \$1,100, dual-display systems may begin to find wider acceptance.

"We already use a two-monitor system consisting of an Apple color monitor and card and

a 19-inch monochrome monitor," said Eric Neylon, manager of MarinStat, a Mill Valley, Calif., pre-press house. "Simply by substituting the SuperMac ColorCard/24 for the Apple display card, we can upgrade to true color for less than \$1,000." Even if you bought an all-new display system, the cost of the dual-monitor approach would be nearly \$6,000 less than the cost of replacing the present setup with a single-screen, dual-page true-color system, Neylon said. "With our two locations, that represents a savings of about \$12,000, and we sacrifice little functionality."

Turbo-charged true color. However, large-screen (at least 1,024-by-768-pixel) true-color display is a requirement in operations where the bulk of the work involves full-range color, such as color pre-press, film animation, medical imaging, or the shaded rendering of architectural and engineering models. For these users, the slowness of 24-bit color QuickDraw is excruciating. The solution lies in QuickDraw accelerators such as those introduced by Radius Inc. and SuperMac Technology Inc. last year.

SuperMac's first accelerator card, the

Spectrum/24 Series III, features hardware instructions built into custom VLSI (very large-scale integration) processors that make two-page true-color displays behave as quickly as their eight-bit cousins, according to the company. Owners of SuperMac's 640-by-480-pixel ColorCard/24 can purchase a \$499 add-on accelerator.

Radius display accelerators occupy their own NuBus slot, can be used with any existing or future Radius display card, and use an off-the-shelf RISC (reduced instruction set computing) processor to execute QuickDraw routines. According to Radius, the advantage of the RISC processor is that it is programmable, making it possible to accelerate other specialized instructions, such as those specific to the rendering of CAD drawings. The Radius generic QuickDraw accelerator, QuickColor, retails for \$795.

For CAD applications, the Radius QuickCAD Graphics Engine (\$1,495) enhances the speed of vector-based drawing creation. "Until the Radius Graphics Engine became available, only the [IBM] PC offered a plentiful array of graphics-coprocessor-powered display options," said Scott Davidson of Sausalito, Calif.-based Autodesk Inc.

CAD accelerators are a must if the Mac is to compete successfully in the CAD market, Davidson said.

The rest of the story. A number of other less-dramatic improvements are finding their way onto the Macintosh screen. The first is an increase in Mac installations of multiple-scan-frequency (usually called multiscan or multisync) monitors originally developed for the PC market.

Street prices for multiscan monitors are 20 percent to 30 percent lower than prices for Mac-only models that are about the same size. Furthermore, standard-size models generally allow for scan rates between the 15.7 kHz required for the non-interlaced National Television System Committee video display provided by many multimedia cards and the 35 kHz required for Mac-compatible 640-by-480-pixel displays. Finally, multiscan monitors are attractive to large organizations that want to adapt their monitors to both PC and Macintosh platforms.

The image on your screen will get easier to look at in the '90s.

Jaggies will disappear from scaled text. Outline screen fonts, similar to those used by PostScript printers, will replace the bit-mapped variety now distributed with the Macintosh system. Users can already get this capability with Adobe Type Manager, and Apple will distribute such fonts with System 7.0.

Ergonomic factors will improve as well. The leading Japanese monitor manufacturers are making advances that will produce new monitors with flatter screens, which will result in less screen glare and edge distortion.

One of these vendors, Nanao USA Corp., said that U.S. versions of Japanese monitors are beginning to meet the strict Swedish anti-radiation standards, which already are specified for similar units being shipped to Europe.

Following the Macintosh into new specialty areas such as color graphics and CAD, monitors and display systems for the Mac have increased in power, complexity and variety. Although 32-bit color and accompanying accelerators represent great strides for Macintosh display systems, do not expect changes to be as dramatic or fast-paced. You can expect incrementally flatter screens, faster processing and greater resolution. □

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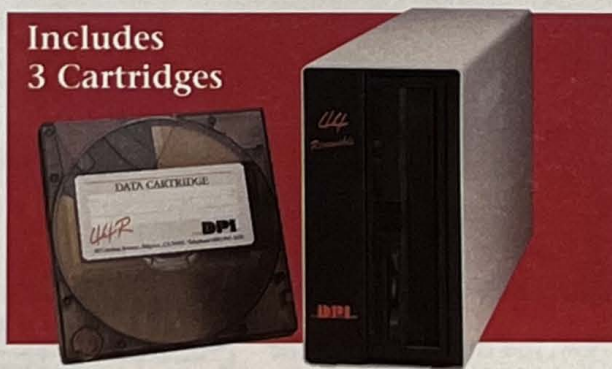
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DPI

Comparison

From Page 46

icons. It wouldn't be a cakewalk, but it's feasible. We couldn't hold out the same hope for a non-programmer using White Knight.

The most significant differences between MicroPhone and White Knight aren't in features and performance, but in the ways the two are distributed, supported and upgraded. We believe these issues will be more important to business and professional users than the price difference between the two programs.

White Knight was born a user-supported shareware program and it continues to be marketed and supported with a hobbyist mind-set. Registered users don't automatically receive updates in the mail, or even update notices. Version update files are posted in FreeSoft's forum on GENie and announced on other on-line services and at meetings of users groups. You need to check one of these sources to find out if a new version of White Knight is available.

Software Ventures offers a more-conventional, business-oriented approach to distributing and supporting its products, which is more appropriate for sites where telecommunications is a business tool. Software Ventures doesn't require its customers to subscribe to an on-line service for news and upgrades; it merely asks them to check their mailboxes. Similarly, Software Ventures does not ask MicroPhone users to keep abreast of a fast-paced, sometimes weekly, series of updates like the ones FreeSoft produces for White Knight. FreeSoft's rapid response to bug complaints is certainly laudable, but it is daunting to those who don't spend a fair amount of time on the networks and can be a strain on in-house software administrators.

Conclusions. It's fair to point out that there are other good communications products available for the Mac. Hayes Microcomputer Products Inc.'s Smartcom II is a popular, easy-to-use midlevel package that makes telecommunicating transparent while maintaining a fair number of powerful features. Synergy Software's VersaTerm products are powerful programs specializing in

terminal emulations for interfacing with minicomputers and mainframes.

Nonetheless, compared to its IBM PC counterparts, in terms of widely used types of applications, the Mac's weakest offering has traditionally been telecommunications. But MicroPhone II 3.0 and White Knight 11.04 indicate the Macintosh is finally catching up. Anyone who needs a powerful, general-purpose terminal program will do well with either one, though for business and professional users our preference leans toward MicroPhone II. □

Zmodem connection

The updated MicroPhone II and White Knight now offer their own implementations of the Zmodem file transfer protocol. The more dated Xmodem and Ymodem techniques must pause after transmitting each 128-byte or 1,024-byte block of data and await an acknowledgment from the receiver that verifies the block's integrity.

Since Zmodem has the capability to stop the transfer at any point and request retransmission of specific blocks from the sender, there are fewer pauses in the transmission and, therefore, greater efficiency and overall data throughput.

Zmodem offers the added benefit that, if a transmission is interrupted in progress due to a lost connection, it can be resumed later without resending data. Zmodem has the intelligence to pick up where it left off.



EYESORE VS. EYE PROTECTION

As today's monitors get bigger and brighter, anti-glare filters become less of an option and more of a necessity.

The right filter can combat eye fatigue, help eliminate headaches, even reduce overall body stress.

Yet, the irony is that something so good for your eyes can be such an eyesore.

In fact, most filters look like they belong to someone else's system.

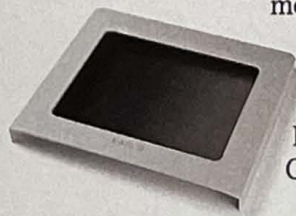
The fit is sloppy. The colors don't match. The materials are different.

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It looks so much a part of the SE, you would think it was designed by the same people who designed the SE.



The styling is complimentary. The color identical. Even the same material is used.

And unlike generic filters, the fit is perfect. So light passes through the filter, never around it.

Kensington uses only optical quality glass with a ceramic anti-reflection and scratch-resistant coating.

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THE FREESOFT CO.

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RADIUS INC.

QuickColor: \$795;

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SOFTWARE VENTURES CORP.

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and drawing function you do.

WIZ meets the needs of virtually every Macintosh and PC user—from novice to advanced. Because WIZ gives you the convenience and flexibility of six programmable buttons, a cross-hair pointer and 1000 dpi for pinpoint accuracy, along with



Prehistoric.



a user-definable mouse area.

What's more, WIZ unleashes the full power and speed of your software. Optional templates for most major programs eliminate tedious pull-down or bar menus. Because WIZ templates put the commands you use most at your fingertips for

instant access. And for the artist in you, WIZ offers an optional pen for drawing.

There's no rolling ball or moving parts. Nothing to clean. And WIZ has a five year warranty backed by CalComp, a world leader in computer graphics for over 30 years.

But the most amazing thing about WIZ is that you get it all for an introductory price under \$200.

See WIZ at your local dealer or call 800-CALCOMP.

WIZ by CalComp. Everything else is just a mouse.



Historic.



REVIEWS

Nuvotech TurboStar: LAN hub alternative

TurboStar Network Hub

Nuvotech Inc.
List Price: \$1,795

- ✦ Easy to interface with existing twisted-pair installations; system management over AppleTalk; excellent software; status lights.
- ✦ Higher cost; poor documentation; wall mounting inconvenient for large installations.

By Vernon Keenan and Brad Freeman

When Farallon Computing Inc. of Emeryville, Calif., introduced twisted-pair LocalTalk networking in 1986, a resounding yelp of happiness was heard from network system managers and technicians. Apple's original LocalTalk cabling scheme was extremely awkward, did not lend itself to large implementations and was prone to inopportune disconnections. Managing and expanding LocalTalk networks has become considerably easier since Farallon created the

PhoneNet connector that uses standard telephone wiring techniques for network connections.

Until 1988, Farallon had a virtual monopoly on the twisted-pair networking hardware market. At that time, Nuvotech Inc. began selling a less expensive version of Farallon's PhoneNet network connector, the TurboNet ST, and the company recently shipped the TurboStar, a more expensive and intelligent analog to Farallon's StarController.

What's an active star?

The TurboStar functions as an intelligent central hub in a LocalTalk network, making its topology an active star. Each node on the network, such as a Mac, LaserWriter or gateway device, is connected to the TurboStar via a standard two-pair telephone cable. Having an active star configuration increases the maximum total length of your cables and gives the network manager several control and analysis functions, such as analyzing network activity, checking for errors, and turning specific nodes on and off.



Reviews in Brief: PERSUASION 2.0 • PARTNER

Persuasion 2.0

When we reviewed the initial release of Aldus Corp.'s

Persuasion early last year (MacWEEK, Jan. 17, 1989), we were impressed with how well the program balanced an excellent set of features with a lack of complexity that made the product very easy to use. Unlike the other presentation software packages on the market, Persuasion's environment for creating slides and presentations didn't look like a drawing program grafted onto layout software.

Many companies would be content with a product of that completeness, but Aldus and Persuasion developer Peter Polash spent the remainder of the year fine-tuning the product, culminating with the release of Persuasion 2.0. The result is a solid program that has gotten even better.

Some new features in Version 2.0 are maintenance

or cosmetic in nature, such as support for 32-bit color. Other major additions round out the few blind spots that were present in the first version of the program.

The most important new features in Persuasion 2.0 involve the way that presentations are manipulated and changed. In Version 1.0, an Autotemplate (which contains master slide templates), once applied to a Persuasion document, could only be applied to a different template by exporting the outline text and then importing it into a new file.

Persuasion 2.0 allows new Autotemplates to be applied to existing presentations and offers the option of either replacing an existing template or appending the new template's slide masters to the presentation. This feature encourages users to experiment with different presentation formats and styles, without making them go through time-consuming contortions.

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Using standard telephone wiring techniques is a great advantage when wiring whole new buildings, because cabling workers who are familiar with this cabling procedure can easily install standard modular phone-jack (RJ11) outlets in most offices. All the cables from the RJ11 outlets go to wiring closets that use standard telephone punch-down blocks to organize and index all the cables coming from the offices. In large setups, multiple closets are used to create a hierarchy of punch-down blocks that are ultimately all connected together in a central wiring room. Most users put their active star controllers in the central wiring room.

The hardware. The TurboStar is a rather large (10 by 12 by 3.75 inches) metal box. It weighs just eight pounds and has 16 sets of LEDs on the front. A solid green light shows that a port is active, a solid red indicates that a port is turned off and a flashing red light indicates an error condition. It will support up to 64 nodes connected to 16 ports (the StarController has only 12 ports). There's a reset switch to turn all the ports on and restore all names and passwords to default. Inside the box is a single circuit board and a power supply. There is no fan nor user-serviceable components contained within the box.

Installation, documentation. The documentation supplied with our TurboStar was quite poor. While Farallon's documentation goes into great detail in describing how to construct a PhoneNet network, the Nuvotech documentation simply states that you should contract with professional cable workers to have your wiring installed. There was some cabling installation information included as a file on the software distribution disk, however. The general quality of the text, layout and illustrations was also not up to Macintosh standards. There is minimal information on troubleshooting and

virtually no advice on how to intelligently construct a new AppleTalk network from the ground up.

We tested the TurboStar by using it in place of an existing StarController and PhoneNET network. Since the TurboStar is plug-compatible with the StarController, we had no problems with the hardware installation.

Creating a new network would be another matter entirely. While Farallon's documentation is well-suited to helping a novice network manager get a new network going, the Nuvotech documentation is, well, hopeless. We cannot recommend that anyone who is inexperienced with constructing twisted-pair LocalTalk networks count on the TurboStar documentation to get all the information they will need. But if you are an experienced network installer, the information provided with the product is sufficient.

We found that the construction of the TurboStar box was inadequate for very large networks, which require several boxes in a single communications room. Our room is very crowded, and there would not be enough wall space to mount several units alongside the punch-down blocks. We currently stack the Farallon StarControllers, but that would not be possible with the TurboStar because it would obscure the lights. Also, overheating would soon become a problem because of the self-contained power supply. We wish both Farallon and Nuvotech would create rack-mountable versions of their products so we could conveniently install and use six or more of these units in a single communications room.

Testing and management.

We tested the TurboStar in a small network with four Macs, a LaserWriter and an Ethernet gateway. We've been using the unit to do normal work as well as some high-volume tests through the Ethernet bridge. We also used InterPoll to time the AppleTalk connection

between nodes connected to the TurboStar and between a TurboStar node and another node over the Ethernet internetwork. All of our timing tests were normal, and we could detect no reproducible problems with the TurboStar.

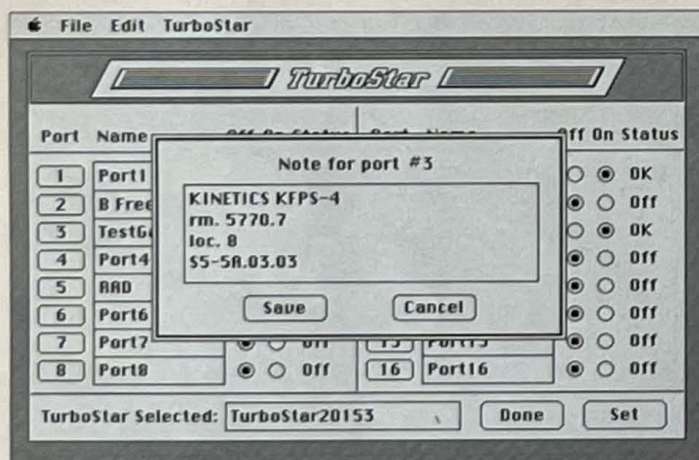
The software for controlling the TurboStar has a wide range of functionality and is easy to use. Unlike the StarController, which requires a special hookup for software control, the TurboStar control and analysis functions may be accessed over the AppleTalk network. We liked this feature, especially since we would be able to control a large number of TurboStars from a single Macintosh without any special wiring. We have found the Farallon management scheme to be inconvenient for a very large number of StarControllers, especially for those in a remote location. A potential problem with the TurboStar software is that it won't work if the network is completely non-functional.

Because the software is controlled over the network itself, an AppleTalk "socket" is created by the TurboStar and may be tested by InterPoll. We often use InterPoll to test network connections between a user and a network service and, since the TurboStar shows up in the same InterPoll window with every other AppleTalk socket, it is easy to find out if the TurboStar is dead or alive.

The software itself is easy to use. Some of the functions supported include text documentation of each node, testing and control of each node, a listing of all AppleTalk sockets present on your internetwork, a current-activity column graph and an error log. Inexperienced network managers should have no problem using the TurboStar software.

Is it worth it? We liked the TurboStar, but it does have its share of problems. All the pluses and minuses need to be considered with the fact the list price for a TurboStar

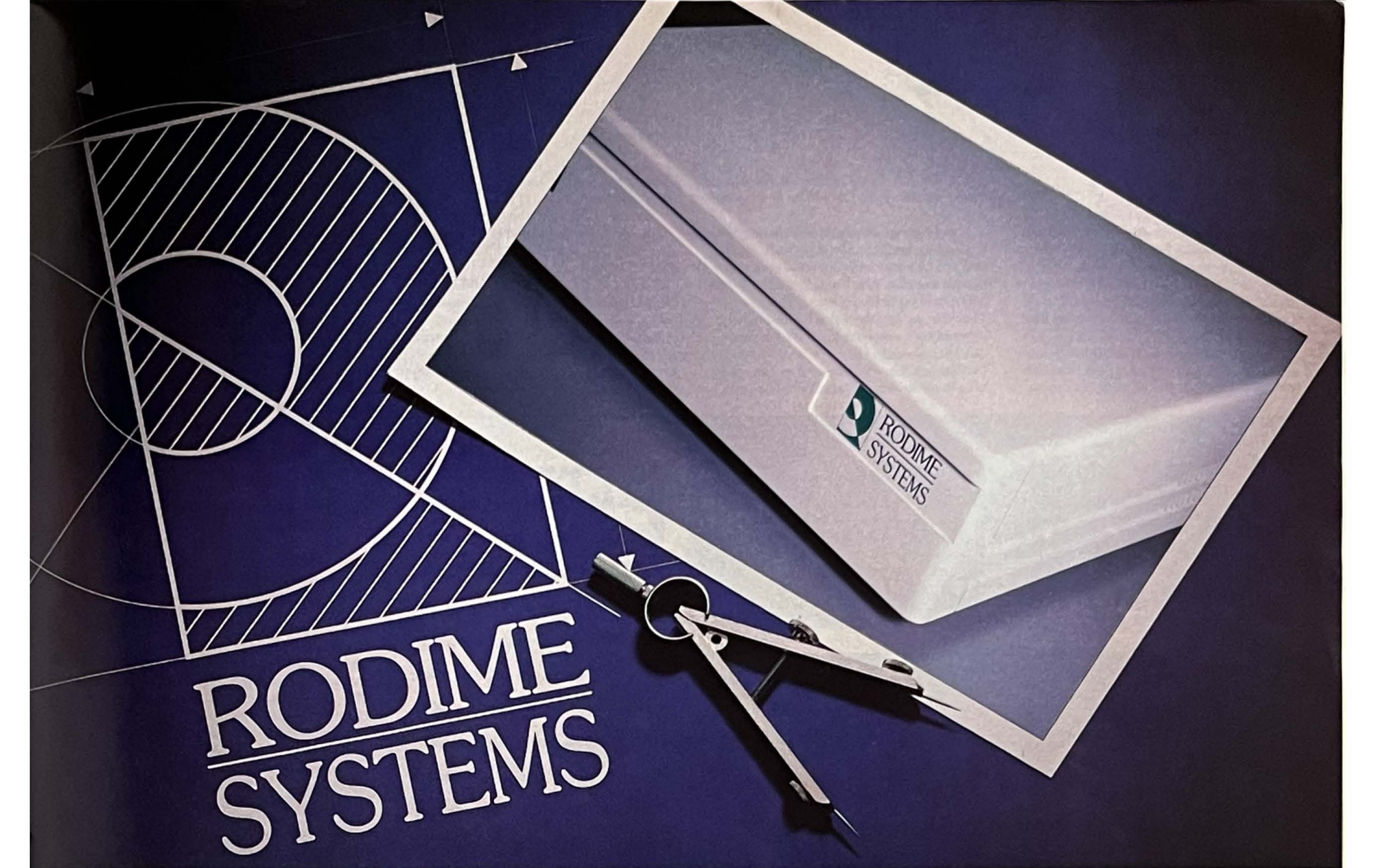
See TurboStar, Page 54



TurboStar's management software lets users store information about each node on the network.

Port	Devices connected	Packets received	CRC errors	Overrun errors	Time outs
1	0	0	0	0	0
2	2	29202	2	0	0
3	1	44203	0	0	0
4	0	0	0	0	0
5	1	9335	1	0	0
6	0	0	0	0	0
7	0	0	0	0	0
8	0	0	0	0	0
9	1	462	0	0	0
10	0	0	0	0	0
11	1	1838	0	0	0
12	0	0	0	0	0
13	0	0	0	0	0
14	0	0	0	0	0
15	0	0	0	0	0
16	0	0	0	0	0

TurboStar's software maintains an error log for each port, a feature that can be invaluable for system administrators who must troubleshoot large networks.



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TurboStar

From Page 52

is \$400 more than the StarController.

The physical construction of the TurboStar is adequate for low-density installations. You get four more nodes than with the StarController. The LED panel is useful, but you will experience problems if you need to install several TurboStars in a room without ample wall space.

Software control over the AppleTalk internet is an important advantage over Farallon's product. Although you won't be able to

access the unit if your network is completely down, we have found that to be an extremely rare event.

If you manage a large AppleTalk internet network or are an experienced network installer and will turn your new networks over to inexperienced network managers, the TurboStar would probably be a good choice. The software and the status lights will help new network managers get their job done quickly and easily. However, if you are new to twisted-pair LocalTalk cabling and are planning to create a small LocalTalk active star

network yourself, we recommend the Farallon StarController because of the high quality of the documentation and the cost savings.

Nuvotech Inc. is located at 2015 Bridge-way, Suite 204, Sausalito, Calif. 94965; (415) 331-7815; (800) 232-9922.

Farallon Computing is at 2150 Kittredge St., Berkeley, Calif. 94704; (415) 849-2331. □

Vernon Keenan is a MacWEEK contributing editor and Brad Freeman is a senior networking specialist for a Bay Area pharmaceutical company.

Reviews in Brief

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Other modifications we liked in Version 2.0 include the capability to create master slide types from existing slides in a presentation, a placeholder for slide numbering, the ability to overlay chart types and the addition of background masters.

In an effort to claim dissatisfied users of Microsoft Corp.'s PowerPoint, Persuasion can now import presentations that have been created in PowerPoint and saved in Scrapbook form. Because Persuasion can export a whole presentation or a separate slide in Scrapbook form, this is also a good way to move specific slides into new presentations.

Aldus also has beefed up the outliner in Persuasion, which was probably the weakest link in Version 1.0. The outliner now supports multiple font and style selection as well as discontinuous selection of topics, making it more useful for presentation materials and as a slide sorter.

In sum, Persuasion 2.0 adds strength to an already robust program. In our opinion, it is the pre-eminent presentation graphics program for the Mac.

Aldus Persuasion 2.0 sells for \$495. Registered owners can upgrade for \$75 and extended support customers can upgrade for \$50. The update is free for users who purchased Persuasion after Aug. 1, 1989.

Aldus Corp. is located at 411 First Ave. S., Seattle, Wash. 98104; (206) 622-5500.

— By Rick LePage.

Partner 1.0

Salient's Partner 1.0 is a Startup document (INIT) that helps integrate graphics applications into your word processor or page-layout program. When installed, Partner puts its own menu into MacWrite II, Microsoft Word, QuarkXPress and PageMaker.

With it, you can "place" graphics in a document — much like using the Place command in PageMaker or XPress — and later easily edit them via Partner's menu selections. The graphic is actually embedded in the publication document, but maintains a link to the application that created it.

Partner supports graphics from Adobe Illustrator and Illustrator 88; Deneba Software's Canvas 2.0 or 2.1; Aldus FreeHand; Ashton-Tate Corp.'s FullPaint; Claris Corp.'s MacDraw, MacDraw II and MacPaint 2.0; and SuperPaint 2.0 from Silicon Beach Software Inc. It requires System 6.0.2 or later and MultiFinder, and you'll probably also need at least 2 Mbytes of RAM to run your graphics and publication programs simultaneously.

Partner is highly configurable, so you can tailor its menu to the applications you actually use and its keyboard shortcuts so they don't conflict with those in your other applications. We found it to work reliably, even on an INIT-laden Mac and alongside other programs that open within publication programs, like Deneba's Coach Professional and Electronic Arts' Thunder II.

We'd like to see support for more graphics applications in Partner, such as SuperMac Technology's PixelPaint and Electronic Arts' Studio/8. An upgrade now in the works will support the Nisus word processing program from Paragon Concepts. We also think Partner would benefit from a more detailed manual, as well as a Control Panel interface so it could be disabled when not needed.

Still, it's an effective, practical utility for desktop publishers and should be especially useful in groupware and service bureau settings. Partner 1.0 retails for \$99.

Salient is located at 3101 Avalon Court, Palo Alto, Calif. 94306; (415) 852-9567.

— By Dennis Klatzkin

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Producer: KCA Architects. Designer: Colin Cathcart. Client: Chess King.

Help Desk

Mysteries of the Desktop revealed



BY DAVID RAMSEY

I've always been able to open Word by double-clicking on a Word document icon. Now all my Word documents have blank page icons, and double-clicking on them produces a message telling me the application is "busy or missing." What's happened, and how can I fix it?

Dealing with this problem is usually simple, but you'll need to learn some stuff that only Mac programmers should have to worry about. File this under "Life's not fair."

On every Macintosh disk, the Finder creates and maintains an invisible file named Desktop. This file contains the information the Finder needs to locate applications when you open their documents and to display the icons appropriate for each file. The Desktop also contains any comments you may have entered in a file's Get Info box.

Each Mac file has two four-letter codes, known as type and creator, associated with it. A file's type code tells you roughly what kind of file it is. For example, a file of type TEXT consists of text only, and a file of type APPL is an application. Microsoft Word creates documents with a type of WDBN and a creator of MSWD. The Word application itself has a type of APPL and a creator of MSWD. When you double-click a Word document icon, the Finder notes the document's creator and uses the Desktop file to find an application with a matching creator. If one is found, the Finder launches the application and tells it to open the document that you double-clicked.

The Desktop file is maintained automatically. When you buy a new program and copy it to your hard disk, the Finder looks in the file and extracts the icon, type and creator information. This information, as well as the location of the folder the program is being copied into, is inserted into the Desktop file.

Familiar problems. Most problems like this one fit into one of two categories:

► The Desktop file is damaged or incomplete. This is the most common cause for the "application busy or missing" message when the application is really there. In this case, forcing the Finder to rebuild the Desktop file often will cure the problem. You can do this most easily by holding down the Option and Command keys when you boot. This causes the Finder to look at every file in every folder and create a new Desktop file from scratch.

► An application's "bundle bit" has been changed. The bundle bit is one of those things that no Mac user should have to be concerned with. Suffice it to say that the bundle bit binds an application's icons and file references together. If this bit isn't set, the Finder may not see the icon, type and creator information for that file.

The easiest way to find and fix bundle-bit problems is with a nifty little free utility called BundAid. BundAid scans any disk on your system, setting the bundle bits on all applications and unsetting them everywhere else. It's available as BUNDAD.SIT in Library 7 of the MacPro forum on CompuServe as well as from bulletin boards, information services and users groups everywhere. It's always worked for me.

Desktop Manager. The Finder uses the Mac's Resource Manager, which was designed in the days of 400-Kbyte floppies, to maintain the Desktop file. It's not terribly fast. People with lots of files — say, more than 1,000 or so — start to notice long waits when

copying or moving files with the Finder.

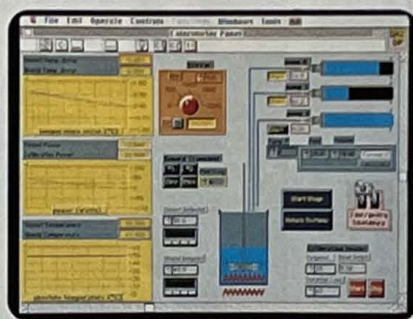
Desktop Manager, a Finder enhancement that was developed to speed up Desktop maintenance over a network, is included with the AppleShare server disk. It's used automatically if present by the Finder in System 6.0 and later. It dramatically reduces the amount of time the Finder spends maintaining the Desktop on any Macintosh. To use it, just put it in your System folder and reboot. Your

single Desktop file will be replaced with two files, Desktop DB and Desktop DF, but other than a speed improvement, there's no operational difference.

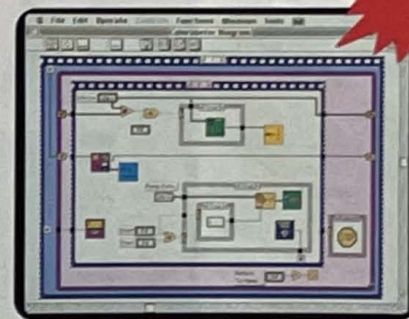
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Please send questions to David Ramsey on CompuServe: 76702,335 or to Help Desk, c/o MacWEEK, 301 Howard St., 15th Floor, San Francisco, Calif. 94105.

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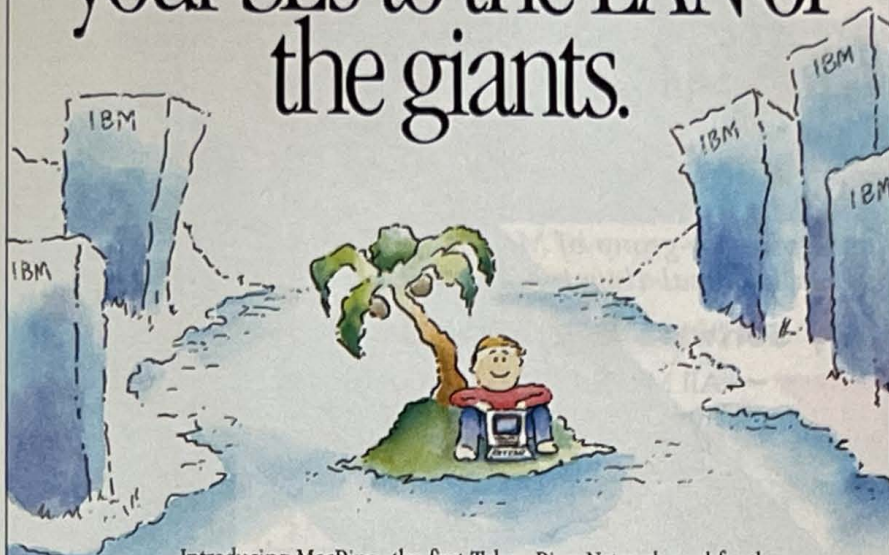


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- All Macintoshes on the network must be running System 6.0 or newer.

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- An AppleTalk compatible network.
- Two or more Macintoshes with a minimum of 1MB of memory.

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- Hard drives not required—Flash works fine on all floppy-based Macintoshes.
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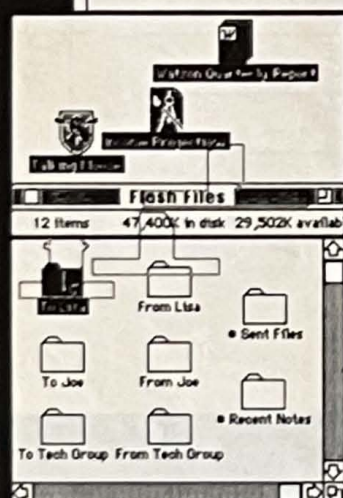
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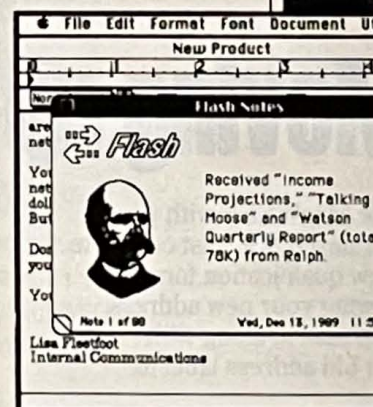
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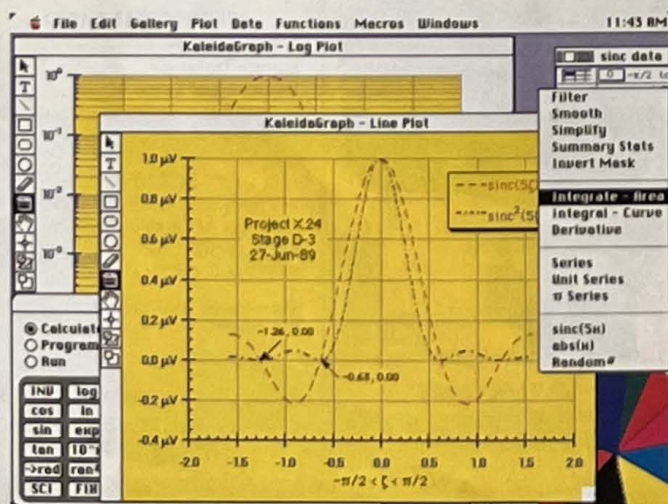
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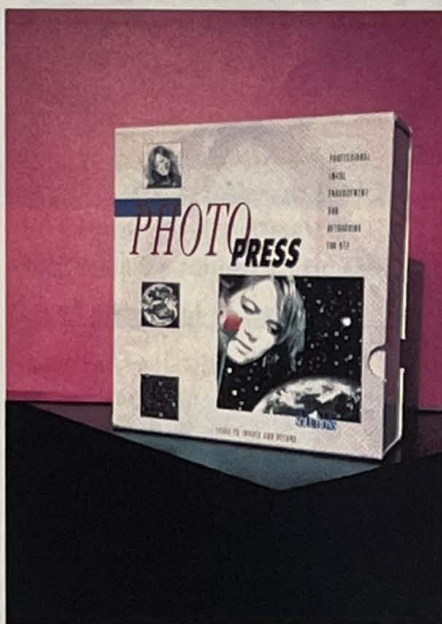
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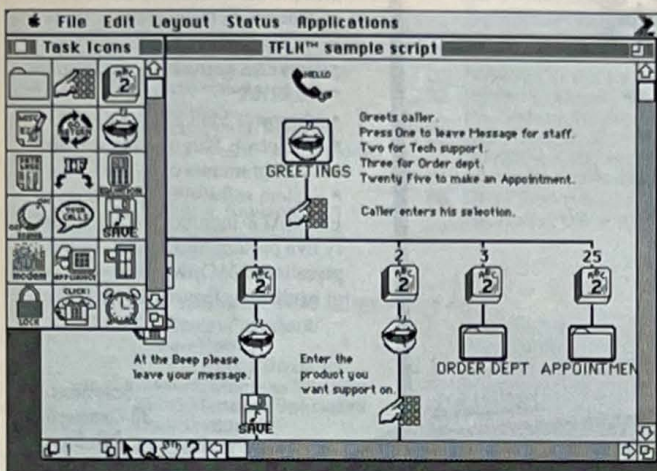
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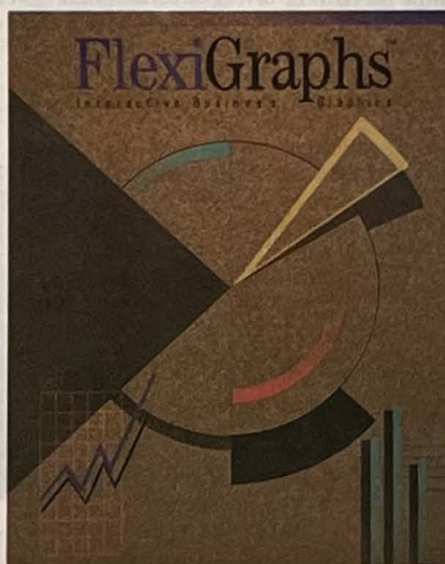
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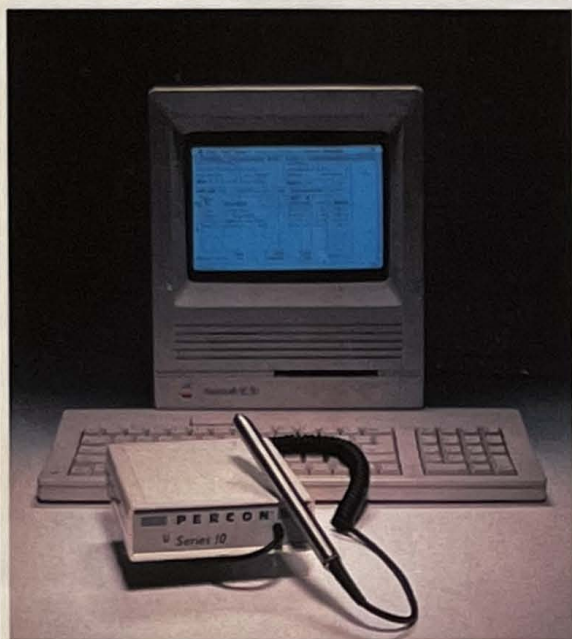
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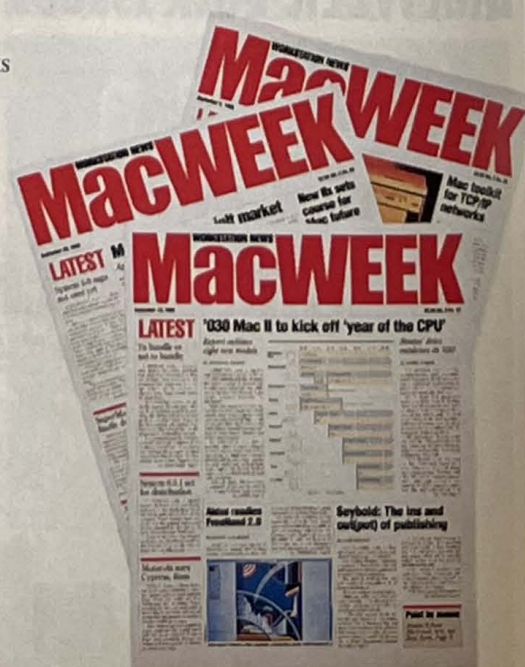
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3 Your department/function at this location (check one only):

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- ☐ Z. Other (please specify)

4 Are there Macintoshes or other PCs listed below owned and/or planned for purchase within 1 year at this location?

- ☐ Yes ☐ No
 (Write in accurate quantity for all that apply)

	Currently Owned (Quantity)	Plan to Purchase (0-12 Months) (Quantity)
Macintosh IIcx/Macintosh IIx	1	
Macintosh IIfx	2	
Macintosh II	3	
Macintosh SE/30	4	
Macintosh SE	5	
Macintosh Portable	6	
Macintosh Plus	7	
Macintosh (Other)	8	
IBM/Compatible Micro	9	
Workstation (e.g. Apollo, Sun)	10	

5 If your firm's primary business at this location is retailing, reselling or consulting, how many Macintoshes are sold per year (answer one only):

- ☐ A. Retailer: sold per year _____ (specify quantity)
- ☐ B. Reseller: resold per year _____ (specify quantity)
- ☐ C. Consultant: purchased by your clients through your firm's recommendations per year _____ (specify quantity)
- ☐ D. Not Applicable

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6 Please check the Mainframe(s) or Minicomputer(s) at your location (check all that apply):

- ☐ 01. VAX ☐ 02. IBM ☐ 03. Other ☐ 09. None

7 Do you purchase, recommend, specify or approve any of the Macintosh/Compatible products listed below?

- ☐ Yes (If yes, please check all that apply) ☐ No
- Computers**
- ☐ 01. Macintoshes
 - ☐ 02. Workstations
 - ☐ 03. Minis, Mainframes
- Add-in Boards**
- ☐ 40. Memory Boards
 - ☐ 41. Graphic Boards
 - ☐ 42. MS DOS Boards
 - ☐ 43. Ethernet Boards
- Connectivity**
- ☐ 10. Local Area Networks
 - ☐ 11. Modems
 - ☐ 12. Micro/Mini/Mainframe Links
 - ☐ 13. Communications Software
- Peripheral Equipment**
- ☐ 20. Laser Printers
 - ☐ 21. Color Printers
 - ☐ 22. Color Monitors
 - ☐ 23. Hard Disks
 - ☐ 24. Backup Systems
 - ☐ 25. Plotter, Charting Devices
 - ☐ 26. Scanners
- Software**
- ☐ 50. CAD/CAM
 - ☐ 51. Graphics
 - ☐ 52. Desktop Publishing
 - ☐ 53. Desktop Presentation
 - ☐ 54. Database
 - ☐ 55. Programming
 - ☐ 56. Accounting, Payroll
 - ☐ 57. Spreadsheets
 - ☐ 58. Music
 - ☐ 59. Project Management
 - ☐ 60. Word Processing
 - ☐ 61. Utilities

8 If you help purchase, specify, recommend or approve Macintosh Computers, software or peripherals, for how many MACs do you have this involvement over the course of one year?

- ☐ 01. 500 +
- ☐ 02. 100-499
- ☐ 03. 50-99
- ☐ 04. 20-49
- ☐ 05. 10-19
- ☐ 06. 4-9
- ☐ 07. 1-3
- ☐ 09. None

9 Please indicate the communications capabilities that the Macintoshes at your location have (check all that apply):

- ☐ 01. Local Area Network
- ☐ 02. Communicate with corporate workstations, mini or mainframe computers
- ☐ 03. Communicate with remote mini or mainframe computers
- ☐ 04. Communicate via modem
- ☐ 05. Voice/Data
- ☐ 09. Other (please specify) _____

10 Indicate how many employees there are in your entire company (check one only):

- ☐ 01. 1000 or more ☐ 02. 100-999 ☐ 03. Under 100

11 Indicate an additional individual at this location who might qualify for a FREE subscription to MacWEEK:

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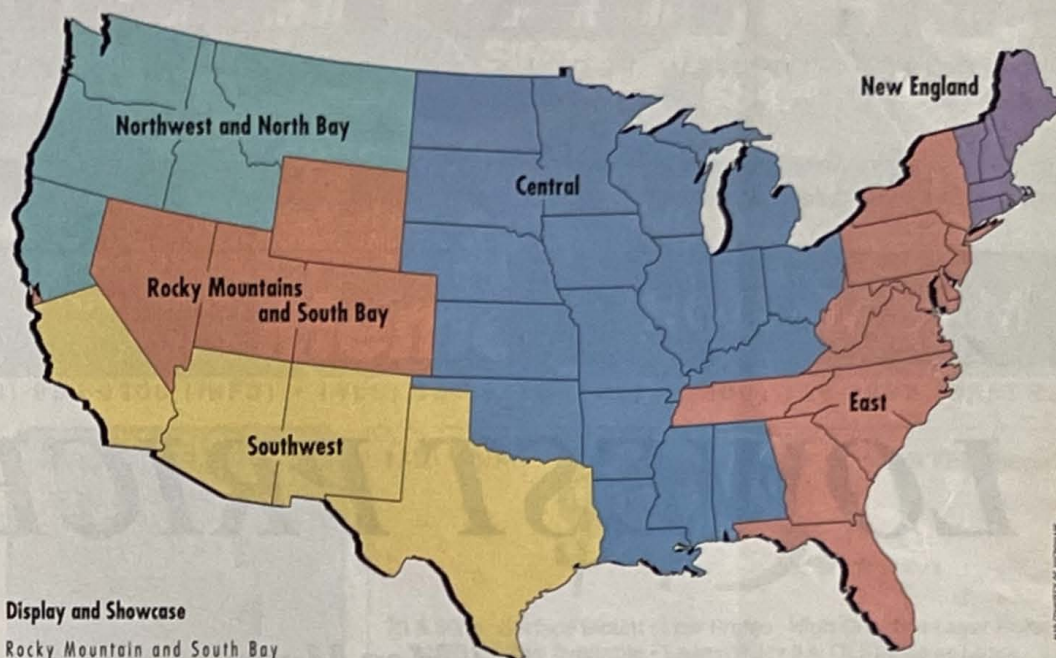
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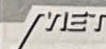
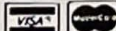
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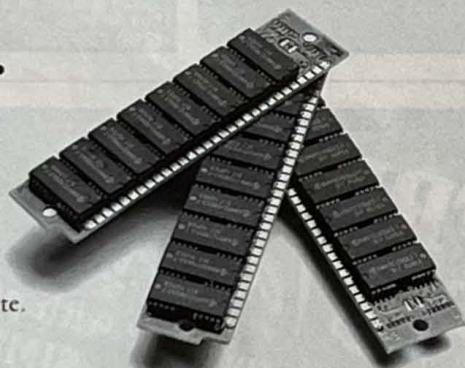
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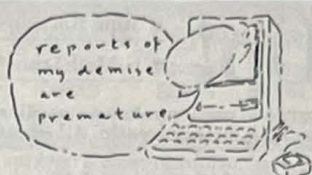
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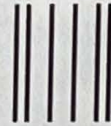


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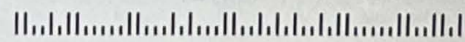
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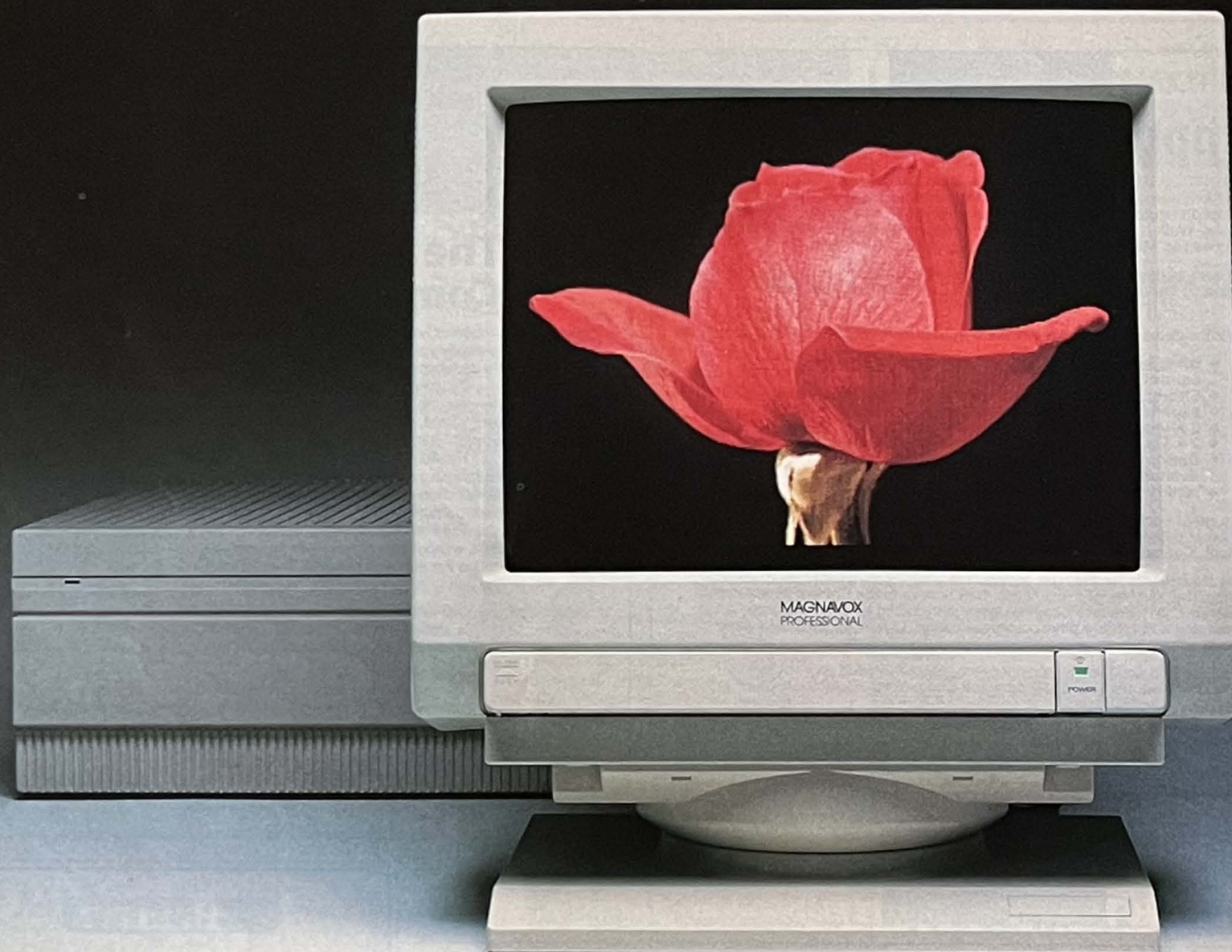
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Apple may lose Air Force contract

GAO blocks Apple on multitasking

By Pamela Pfiffner

Washington — Last summer Apple's Federal Systems Group was soaring on the wings of its largest government contract ever, but after a ruling last week by the General Accounting Office, Apple may have to brace itself for a rough landing.

Ruling on a protest filed by Martin Marietta Corp. of Bethesda, Md. (see MacWEEK, Sept. 26, 1989), the GAO effectively overturned the \$164 million award to Apple and primary service contractor Honeywell Federal Services

Inc. of MacLean, Va. The two beat out Martin Marietta and its subcontractor, Mountain View, Calif.-based Sun Microsystems Inc.

The deal called for the delivery of 10,000 to 80,000 Mac IIx and IIcx systems over a five-year period (see MacWEEK, Sept. 12, 1989).

The ruling by the GAO, a Congressional investigative agency, advised the Air Force to reopen bidding for its Worldwide Military Command and Control System Information System. It also told the Air Force to clarify its multitasking requirements and solicit another round of offers. "Following evaluation, the Air Force should terminate its contract with Honeywell if appropriate," the GAO stated.

The GAO based its decision on the multitasking capabilities now available with the Mac IIx, one of the models Honeywell offered. The original Air Force specifications required the computers to be able to perform at least 10 tasks concurrently. While A/UX, Apple's version of Unix, can run multiple Unix applications concurrently, only one application written for the standard Macintosh operating system can run at a time under the current release of A/UX. Honey-

well had proposed to meet the Air Force's requirements in such areas as word processing, spreadsheets and graphics with Mac OS applications.

While the ruling is only a recommendation, it is rare for an agency to ignore the GAO's advice, according to David Ashen, GAO deputy assistant general counsel. He added that each year in its report to Congress, the GAO discloses which agencies have followed GAO rulings.

In their bid, Honeywell and Apple said they would supply an interim operating system and offer a true multitasking system in a later upgrade.

"We are happy that they upheld our point of view," said David Sutton, Martin Marietta spokesman. "History shows that people attend to what the GAO says."

Apple would not comment on the ruling. In a prepared statement, Honeywell said it was disappointed but added that it "will continue to perform the contract." Honeywell can appeal the ruling by Feb. 14.

Air Force spokesman Capt. Jack Giest said the Air Force was in the process of reviewing the ruling and would make a decision shortly. □

New judge, new developments in Apple's lawsuits

By Carolyn Said

San Francisco — In the latest twist in Apple's top two legal cases, a new judge has been assigned to hear Apple vs. Microsoft Corp. and Hewlett-Packard Co. as well as Xerox Corp. vs. Apple, and Apple has filed a motion asking that the Xerox case be dismissed.

Legal experts said that reassignment of the cases to newly sworn-in Judge Vaughn Walker may delay their resolution, but probably not significantly.

"A new judge would pick up as closely as possible to where the old one left off," said Jerry Cohen, a Boston-based attorney specializing in computer law.

The judge previously assigned to both cases, William Schwarzer, last week took a five-year leave of absence to head the Federal Judicial Center in Washington. Schwarzer took over the Apple vs. Microsoft case in early 1988 from Judge Robert Aguilar.

Since Xerox's suit against Apple, filed in December 1989, has not been heard, it should not be affected by the change, lawyers said.

In the most recent development in that case, Apple last week filed a motion asking the U.S. District Court here to dismiss Xerox's "contrived, unprecedented [and] inappropriate claims."

The motion and related arguments "are technical and delaying actions by Apple that don't really reach the main questions," Cohen said. "The case will still go to court." Judge Walker is scheduled to hear Apple's motion on March 23.

The motion was tinged with a certain acerbity: "Xerox should be left where it has placed itself for the past decade, observing the work of others from the sidelines," it stated. □

ComputerWare challenged by its own success in retail arena

By Eric J. Adams



CHANNEL
NEWS

Palo Alto, Calif. — For Macintosh devotees in the San Francisco Bay area, ComputerWare stores have always been a friendly haven for people interested more in a computing culture than just a machine. Now, after a spurt of acquisition and growth, the Mac-only retailer with both a cult and corporate following is facing its toughest chal-

lenge: managing its own success.

The privately held company now estimates that it accounts for 30 percent of the Mac third-party retail market in the Bay area. Annual sales hover around the \$40 million mark and revenues increased 35 percent in the past fiscal year.

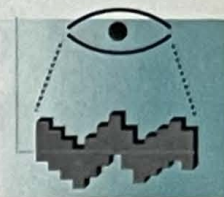
Founded in 1985, ComputerWare Inc. achieved its prosperity through a then-radical sales strategy. Its stores sell only third-party hardware and software for the Mac. Until the acquisition last Decem-

See ComputerWare, next page



Roger Reed, ComputerWare president and CEO, and Martin Mazner (right), the company's vice president of sales and marketing, face the challenge of managing a success story.

Business BRIEFS



Former Mac-market bigwigs part of Slate start-up team

Foster City, Calif. — A new software venture company developing for "an emerging marketplace" has assembled a high-powered team of industry veterans that includes some well-known names from the Macintosh market.

Among the founders of Slate Corp. are Tom Byers, former executive vice president of Symantec Corp., and Mitch Stein, until recently Adobe Systems Inc.'s product marketing manager for TrueForm. Byers and Stein will be joined at Slate by Symantec founder Vern Raburn and VisiCalc co-author Dan Bricklin.

Byers, who will be Slate's president, would not confirm rumors that the company will develop software for the as yet unannounced notebook computer under development by Go Corp. Byers said that Slate had received a minority investment from Symantec and first-round financing from a major venture capital company.

Golden parachutes for Apple execs

Corporate executives sometimes arrange for severance payments, called "golden parachutes," that can take the sting out of being fired. Golden parachutes for current Apple executives, according to a notice sent to shareholders in preparation for last month's shareholders meeting, include:

- ▶ Donald P. Casey, vice president, network and communications: \$1.2 million.
- ▶ William B. Coldrick, senior vice president of sales: \$2.1 million.
- ▶ Ian Diery, president of Apple Pacific and senior vice president of Apple: \$600,000.

Apple: \$600,000.

- ▶ Gerald F. Forsyth, vice president, worldwide manufacturing: \$400,000.
- ▶ David Hancock, senior vice president of marketing: one year's salary "plus pro rata portion of target bonus for the year (\$427,399 based on 1989 salary and bonus)," plus other benefits.
- ▶ Joseph A. Graziano, senior vice president and chief financial officer: "an amount equal to the total amount of salary and target bonuses payable" up to June 1993 (\$600,000 per year at current levels).

Presentation Technologies and Jandel Scientific merge

Sunnyvale, Calif. — Presentation Technologies Inc., a maker of desktop film recorders, based here, last month signed a merger agreement with Jandel Scientific, a supplier of IBM PC scientific software.

John Griffin, president of Presentation Technologies, said the merger will "provide new product and market opportunities for both companies."

Both companies would have succeeded on their own, said Griffin, but "an independent film recorder company was not as secure as somebody who had a film recorder as part of another business."

Under the agreement, Presentation Technologies, which developed the Montage desktop slidemaker for the Mac, will operate independently as a wholly owned subsidiary.

Jandel customers have been searching for a way to produce low-cost slides from that company's scientific research applications, Griffin said.

Aapps appoints new president and CEO

Sunnyvale, Calif. — Aapps Corp., maker of the Aapps MicroTV card, last week announced the appointment of Frank C. Brooks Jr. as president and CEO. Brooks, a former vice president of Morgan Guaranty Trust Co. in New York, will replace Jonathan Whitman, who has become an Aapps Fellow.

Apple to focus Multimedia Lab expertise on new technologies

By Stuart Silverstone

San Francisco — Even before the latest round of turmoil in Apple's executive ranks, Apple's Multimedia Lab here was going through changes.

The 3-year-old Multimedia Lab now reports to Apple's Advanced Technology Group instead of to its business marketing department, and the number of contractors working on lab projects has been significantly reduced.

Among the best-known projects on the lab's list of achievements are the Visual Almanac, a videodisc created as a "design example" to demonstrate the potential of interactive video for education, and Life Story, a disc that combines a BBC docudrama about the discovery of the genetic double helix with background information accessible through HyperCard.

As part of its evangelist role in Apple's larger efforts to define and advance the multimedia concept, the lab also encouraged collaborators such as the National Geographic Society and Lucasfilm to experiment with Macintosh-based multimedia technologies. It was instrumental in getting major information providers, including ABC News InterActive and Warner New Media, to publish multimedia titles.

But times have changed. "The need for the lab in its original mandate no longer exists," said

Kristina Hooper, the lab's director.

Steve Gano, lead designer at the Multimedia Lab, described the changes as part of a cyclical process. First came the "sketch" phase, with short-term, small-scale projects "full of new ideas for starting a discourse on multimedia." The lab then moved to the "inform" phase, when it distributed technical reports and did demonstrations. In the "build" phase, the lab "incorporated the early sketches into deliverables," he said.

"We've finished the cycle and are now returning to the sketch phase with a different focus," Gano said.

Part of that new focus may be bound up with the lab's new relationship with the Advanced Technology Group, which will put it in a position to influence future Apple hardware.

"It makes sense for the same people to develop hardware now, utilizing their knowledge of what multimedia is," said Burt Arnowitz, senior producer and designer with Arnowitz Productions of San Francisco, which has worked closely with the lab.

As for the apparent state of flux inside the Multimedia Lab, Hooper said: "I will forever, I hope, be changing the character of the lab. The field moves quickly, so we must too. Once we know how to do something, we won't do it anymore." □

ComputerWare From Page 75

ber of an Apple-authorized dealer in Santa Cruz, Calif., ComputerWare did not even sell Macs.

ComputerWare's hallmark is the expertise of its sales force. "When you go into our store, the salesperson can either answer your question

or pass you on to someone who can. He's not interested in closing your [sale]," said Roger Reed, ComputerWare president and CEO. Additional ingredients in the stores' service recipe include technical support, training classes, repair facilities, software loans and a users group.

One sign that the strategy has worked well is that sales are not limited to Mac junkies. A healthy percentage of revenues comes from corporate, direct-order and international sales, although the company declined to say what that percentage is.

Growth has been swift. Within the past year, ComputerWare has increased the number of its outlets from two to five, opening a store in San Francisco's financial district and acquiring MacOrchard Inc., a popular independent Mac third-party retailer in Berkeley, Calif. In addition, it hired the former publisher of MacUser magazine, Martin Mazner, as its vice president of sales and marketing and increased its staff by nearly one-third.

Will ComputerWare expand beyond its Northern California confines? "We'll expand as fast as our ability to support customers," Mazner said. "That's really the greatest limitation to our growth, finding good people and getting them into the way we do business."

Though unwilling to name specific cities, Mazner said Boston and Seattle meet the criteria of having enough "critical mass" to sustain an outlet and the necessary advertising. "I think we are a model for the future," Mazner said. "The biggest trend in the industry is that products are becoming more sophisticated and more powerful. This whole new generation of Mac products

is very difficult to simply clerk."

Industry analysts suggest that ComputerWare is well-positioned for continued growth. "They have the MIS equipment and also one of the better management groups in retailing," said Tim Bajarin, executive vice president of Creative Strategies of Santa Clara, Calif.

But Seymour Merrin, an analyst at Merrin Information Services Inc. of Palo Alto, Calif., and publisher of Channelmarker, a newsletter for microcomputer resellers, warned of the dangers of a headlong rush to growth. "It's not the type of formula that is an overnight success," he said. "In true retail terms, it's a boutique. They have to move cautiously because the model is not easily replicable."

If ComputerWare alters its model at all, it will be to pick up more Apple-authorized dealerships. "We've done well without [Apple hardware], but at this point we think it would greatly enhance our impact in some critical market areas," Reed said.

Both Mazner and Reed insist the company will not lose its commitment to its customers. Pricing will remain competitive, they said. The main warehouse stocks upward of 1,500 Mac products, "four, five, perhaps six times the number of our nearest competitor," Mazner said. The company also has an internal product review board that meets weekly. "Unless there is high corporate demand, we simply won't carry a product we don't like," he said.

How much can the company grow? According to Mazner, ComputerWare's VAX-based accounting software can handle "up to \$1 billion in sales, if that tells you anything." □

Teen sues Apple over 'exploding' IIc screen

Atlanta — A youth who claims to have been seriously injured when his Apple IIc monitor exploded is seeking damages from Apple and Hitachi Sales Corporation of America, which manufactured the monitor.

The incident occurred Jan. 31, 1988, while the teen-ager, whose name was not revealed, was operating a program called "Hello" on his Apple IIc, according to a suit filed last month in the Superior Court of Fulton County, Ga., by Gilbert H. Deitch, a lawyer with Bauer, Deitch & Raines P.C. here.

After the screen went blank, the youth referred to the Apple IIc owner's manual and restarted the computer. The monitor's screen "imploded and/or exploded" without warning, according to Deitch.

The youth reportedly was knocked unconscious and suffered a concussion, lacerations and post-trauma psychological disorders. Deitch, who is seeking an undisclosed amount of money for his client, claims the youth — once an avid computer user — now "freaks out" whenever he comes in contact with computers. □

MarketWEEK

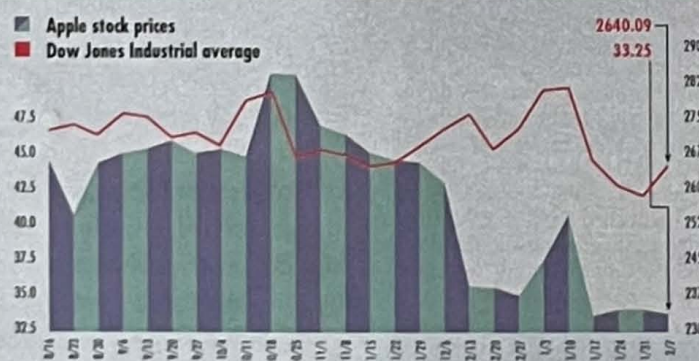
STOCKWATCH

Bargain-hunting investors force tech stocks higher

Investors went rummaging for bargain-basement stocks last week and found plenty of deals in the high-tech sector.

Low-priced stocks that were aggressively snapped up last week included Ashton-Tate Corp.'s, which climbed 18.75 percent, and Seagate Technology Inc.'s, which rose 16.92 percent in response to the company's strong second-quarter earnings report of 56 cents a share (shares were 15 cents in the same period last year). Also popular were Sun Microsystems stock, which rose 12.26 percent on a higher than expected second-quarter net income of \$20.2 million, and Aldus Corp. stock, which climbed 10.71 percent after the company announced its intention to acquire Silicon Beach Software.

Noticeably absent from the list was Apple, which fell 2.21 percent to 33.25, as the company's management shake-up continued.



Mac-related stocks

MAC-RELATED COMPANIES	CLOSING 1/31/90	CLOSING 2/7/90	PERCENT CHANGE	P/E RATIO	ANNUAL HIGH	ANNUAL LOW
Adobe Systems Inc.	23.50	24.63	4.79	15	30.00	14.00
Aldus Corp.	17.50	19.38	10.71	15	24.50	12.25
Apple	34.00	33.25	-2.21	10	50.38	31.88
Ashton-Tate Corp.	10.00	11.88	18.75	-19	24.00	8.75
Businessland Inc.	6.75	7.25	7.41	12	15.25	6.50
Microsoft Corp.	92.50	93.25	0.81	25	96.00	45.75
Motorola Corp.	54.63	58.63	7.32	14	63.63	39.50
Seagate Technology Inc.	16.25	19.00	16.92	11	16.38	9.38
3Com Corp.	11.00	11.13	1.14	13	28.75	10.00

INDUSTRY INDICATORS

Digital Equipment Corp.	79.13	79.13	0.00	11	118.38	75.25
IBM	98.63	103.13	4.56	15	128.63	93.38
Sun Microsystems Inc.	19.38	21.75	12.26	44	23.00	13.00

Compiled by Nivaldo International Inc., of Boulder, Colo.

MARKETWATCH

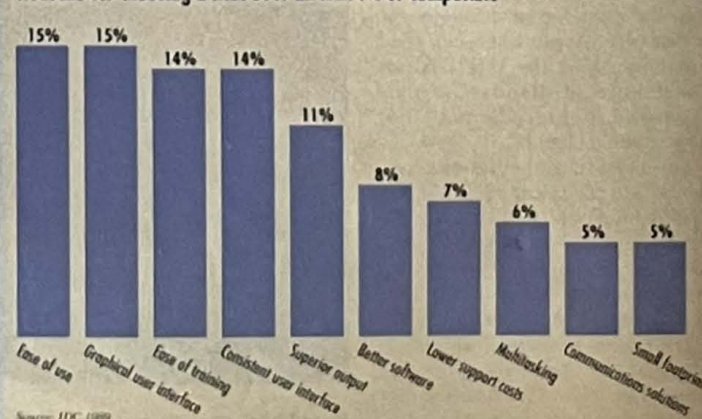
What justifies a Mac purchase?

In a survey of 200 Macintosh users conducted in the fourth quarter of 1989 by International Data Corp., a Framingham, Mass.-based research company, ease of use and the Macintosh graphical interface were the top reasons given for purchasing a Mac workstation rather than a DOS-based machine. Those factors were closely followed by

ease of training and consistency of the interface.

Only 5 percent said they bought a Mac because it is a better communications tool. This figure indicates that despite its progress in this area, the Mac is still frequently perceived as an ugly duckling in the corporate communications pool. — By Griffin Dix

Reasons for choosing a Mac over an IBM PC or compatible



Source: IDC (1989)

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The gurney is the reward

Top executives at Apple seem to be falling faster than European communist governments. To the uninitiated, the recent activities of Apple management looked like barely controlled chaos, but to the trained eye the truth was self-evident: Apple has simply implemented an advanced new man-

agement theory called "Test drive a manager." It's sure to be a hot topic in MBA classes across the nation. Apple employee reactions to the confusion were pretty much as could be expected. As one employee put it to the Knife: "Someone should write a book called 'The Gurney is the Reward.'"

The preannouncement in the press of the

expected resignation of Apple-icon Jean-Louis Gassée didn't help matters. The Knife heard that Gassée was immediately inundated with a flood of proposals from all over the world and a barrage of AppleLink messages that practically overloaded the system. In fact, the Knife claims that Steve Jobs was one of the callers. Hmm. ...

Also, a curious document appeared on Apple's Cupertino campus last week that said, "Dear David: Jean-Louis died for your sins. ... " with a black rendition of the Apple logo. The first card in the Knife's HyperCard stack of Apple employees was for David Hancock, senior vice president of marketing. It seems that Gassée's loyal followers are on the offensive, and are doing some finger pointing of their own in what is fast becoming a tawdry spectacle.

Since a great deal of the confusion had a lot to do with the direction of Apple marketing (or lack thereof), the release date of a string of new Macs could be affected.

In the meantime, the Knife is wondering when John Sculley will shed his Teflon and take responsibility for the sorry state of Apple affairs. Only the board of directors knows for sure, and since Markkula spent last week essentially incommunicado on the ski slopes in Colorado (despite the Knife's public pleas for his input), the board's secret is, for now at least, safe.

Phone graphics. Regardless of how the management soap opera at Apple is resolved, the Macintosh will continue to be a force in the graphics software arena. Just one indication is that AT&T is known to have decided to develop a Mac version of TOPAS, the more than \$12,000 3-D modeling and animation package that runs on IBM-style platforms and is popularly used for some of the computer-generated graphics seen on television. To make it more palatable to the Mac market, the Mac version will retail for less than \$7,000 and offer a subset of TOPAS features.

Apparently, AT&T's Graphics Software Labs doesn't have a particularly high opinion of current Mac 3-D applications and hopes that users will be willing to forgive a few infractions of the Mac interface guidelines. In any event, AT&T GSL plans to demonstrate TOPAS Mac at the National Computer Graphics Association show in March with first shipments due in June.

I'm sorry Dave. Meaningful dialogue with your Mac may be closer to reality than you think. Studiotronics is developing a product called Respond that is designed to let you speak to your Mac to execute any function that you can currently assign to a MacroMaker macro. The Knife reports that a Farallon MacRecorder will be used as the voice digitizer, although the addition of a noise canceling microphone will be recommended. In addition to regular macro commands, Respond will also include a set of HyperCard external commands that will support voice input and output from within stacks. The company is also known to be working on a voice-based E-mail system for LocalTalk networks. All this piqued the Knife's interest, but he's waiting to see the anticipated demos at the San Francisco Macworld Expo.

Last week's item about the Apple on-site service program smoked out information about other test sites. The Knife heard that one Motorola facility in Arizona is benefiting from this program. More than 5,000 Macs were purchased for this site alone last year, which surely made the providing dealer happy. That same dealer is probably less pleased with the new service program. Since it began, all the revenue normally flowing to the dealer for service is now flowing directly to Apple. □

Don't let all these shake-ups get you down. As they say in Nicaragua, todo sera mejor. In the meantime, your best bet is to continue to tell Mac the Knife what you know, since he has the world's largest known reserves of MacWEEK mugs. Call the Knife at (415) 243-3500 or MCI (MactheKnife).

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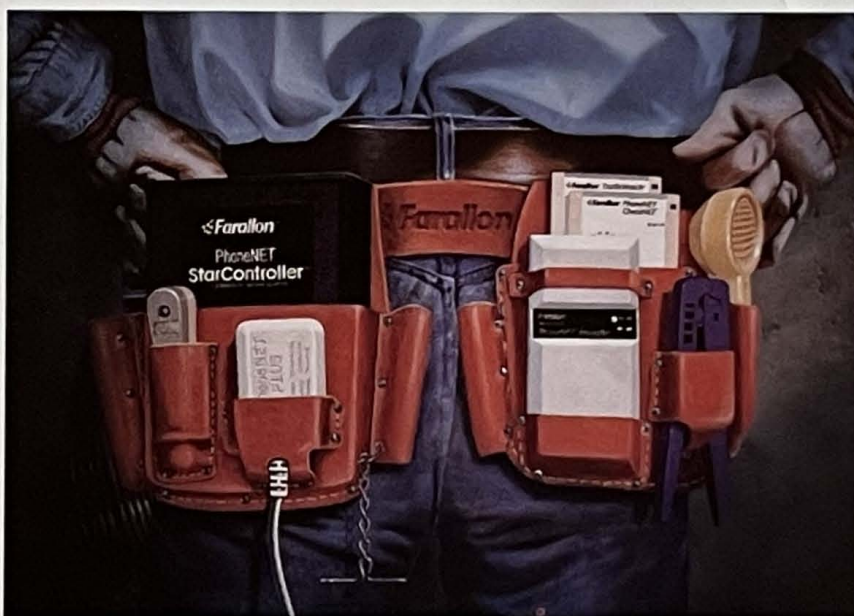
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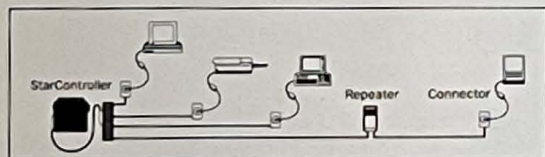
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